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53D CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { Ex. Doc. 1, Part 5.

REPORT

OF THE

SECRETARY OF THE INTERIOR;

BEING PART OF

THE MESSAGE AND DOCUMENTS

COMMUNICATED TO THE

TWO HOUSES OF CONGRESS

AT THE

BEGINNING OF THE SECOND SESSION OF THE FIFTY-THIRD CONGRESS.

IN FIVE VOLUMES.

VOLUME III.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1893.

ANNUAL REPORT

OF THE

COMMISSIONER OF PATENTS

FOR THE FISCAL YEAR 1892–'93.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 6, 1893.

SIR: I have the honor to submit the following report of the business of this office during the fiscal year ending June 30, 1893:

APPLICATIONS AND CAVEATS RECEIVED.

Applications for letters patent	39,539
Applications for design patents	1,201
Applications for reissue patents	111
Applications for registration of trade-marks	2,282
Applications for registration of labels	454
Applications for registration of prints	2
Caveats	2,349
Total	45,938

PATENTS GRANTED AND TRADE-MARKS, LABELS, AND PRINTS REGISTERED.

Letters patent granted (including reissues and designs)	23,471
Trade-marks registered	1,884
Labels registered	None
Prints registered	1
Total	25,356

PATENTS WITHHELD AND PATENTS EXPIRED.

Letters patent withheld for nonpayment of final fee	3,679
Letters patent expired	13,672

RECEIPTS AND EXPENDITURES.

Receipts from all sources	$1,288,809.07
Expenditures (including printing and binding, stationery, and contingent expenses)	1,111,444.22
Surplus	177,364.85

COMPARATIVE STATEMENT.

	Receipts.	Expenditures.
June 30, 1889	$1,186,557.22	$999,697.24
June 30, 1890	1,347,203.21	1,081,173.56
June 30, 1891	1,302,794.59	1,145,502.90
June 30, 1892	1,268,727.35	1,114,134.23
June 30, 1893	1,288,809.07	1,111,444.22

APPLICATIONS FOR PATENTS, INCLUDING REISSUES, DESIGNS, TRADE-MARKS, LABELS, AND PRINTS.

June 30, 1889	39,702
June 30, 1890	43,810
June 30, 1891	43,616
June 30, 1892	43,544
June 30, 1893	43,589

APPLICATIONS AWAITING ACTION ON THE PART OF THE OFFICE.

July 1, 1889	7,073
July 1, 1890	6,585
July 1, 1891	8,911
July 1, 1892	9,447
July 1, 1893	8,283

BALANCE IN THE TREASURY OF THE UNITED STATES ON ACCOUNT OF THE PATENT FUND.

June 30, 1892	$4,102,441.09
June 30, 1893	177,364.85
Total	4,279,805.94

While impressed with the necessity of administering this office with strict economy, I have found that the proper development of the patent system demands two important additions to the resources of this office in order that it may, on the one hand, properly assist every applicant who is found to have invented or discovered an improvement to obtain his patent, and, on the other hand, in the interest of the public, to prevent the issue of duplicate or otherwise invalid patents. The first of these suggested changes is intended to provide a philosophical classification of the 533,077 patents which have been already issued, together with the entire mass of foreign patents and printed publications which constitute the field of search in the case of every application made to this office. I accordingly submitted estimates in a recent official paper, recommending a classification division, consisting of the following additional force, and that recommendation I now renew:

1 chief of classification division	$2,750
2 first assistant examiners (each)	1,800
2 second assistant examiners (each)	1,600
3 third assistant examiners (each)	1,400
36 fourth assistant examiners (each)	1,200
2 clerks (each)	1,200
2 permanent clerks (each)	1,000
2 copyists (each)	900
2 assistant messengers (each)	720

It is estimated that the carrying out of this most careful work would occupy several years. A further part of the work of such a division would be the distribution of the applications as they are received among the thirty-two examining divisions of the Office according to the classification established. It is considered that this work of classifica-

tion is at once the most difficult and discriminating, as well as the most necessary, that can be undertaken in this Office. For want of such a classification applications are passed to issue from the various divisions under different titles, but for inventions so similar as to render the patents invalid. For the chief of this division a salary of $2,750 was recommended—somewhat larger than that of a primary examiner—in order that the best available talent in the Office may be secured for it. Thirty-two of the thirty-six fourth assistant examiners recommended would be assigned to work in the existing examining divisions, and as a part of their work would have charge of the division of classification as well as of the main work of the new division to be established. The advantages of this work in advancing the purpose of this Office—to grant no invalid patents—will be great; but the advantage to the public in protecting industries from the attacks of the holders of invalid patents will be far greater.

A necessary incident for the carrying out of this policy is a more comprehensive scientific library—one to be not inferior to the private libraries of inventors and publicists and of scientific institutions outside the Office. To this end an expenditure of $10,000 in place of the $2,000 appropriated for the current year, a considerable part of which is devoted to the transportation of our patents and publications to foreign countries, would be required. A list of the present pressing needs of the library has been carefully prepared, and it shows that for the purchase of books the sum of $9,267 is required, leaving but a few hundred dollars to meet current exigencies as they arise.

A second resource, made necessary by the policy herein outlined, is to provide in a systematic manner for the examination of industries to which patents pertain as they actually exist in the country at large. At present a patent goes to issue upon the result of a search among books and documents. The disparity between industries as thus exhibited and the industries as actually conducted in factories and in commerce is often wide. It is considered of great importance that some part of the examining force should have temporary details to study the industries of their divisions as they exist in fact, and for this purpose an expenditure of $1,250 would be reasonable.

An expenditure of $750 a year is necessary to provide for the transportation of patents and publications to foreign countries and to enable the Office to accept foreign exchanges. The Patent Office is frequently compelled to decline valuable foreign exchanges because of insufficient means to pay the transportation expenses.

Seventy-six copyists in this Office receive a salary of $720 a year. In every other bureau of this Department and in nearly all bureaus of other Departments this class of employés receives a uniform salary of $900. It results that many of the most competent clerks obtain transfers to other bureaus, leaving this Office at the disadvantage of a constant preference against it in this regard. It is desirable that the salaries of all copyists be equalized at $900.

The issue of the Official Gazette of the Patent Office might with advantage be somewhat enlarged to enable that publication to be furnished free to small libraries other than public libraries, when they are accessible to mechanics, inventors, or students. The present requirement is that the libraries should be free in order to have the Gazette free; but this excludes nearly all those maintained by associations, trades, and business establishments for the benefit of those connected with them. The regular publications of the Government should be free to as large a class as is willing to read them.

The overcrowded and congested condition of this Office as an obstacle to the transaction of the public business has been repeatedly referred to by former Commissioners, particularly by Mr. Mitchell in his report to the Secretary for the fiscal year ending June 30, 1889, and by Mr. Simonds in his report to Congress for the year ending December 31, 1891. With the growth of the Office, it is worse to-day than ever before in the history of the system. The crowding of the employés and the defects of ventilation, light, and heat are such as are not tolerated in private business establishments and would not be permitted by any factory inspector in a State having factory laws. In my judgment it is not only a public loss but a daily wrong to the employés of the Government. It will never be righted nor can the public business be transacted with reasonable dispatch until the Bureau is accorded the exclusive occupancy of the Patent Office or until a new and comodious Patent Office building is authorized and built.

Very respectfully, your obedient servant,

JOHN S. SEYMOUR,
Commissioner.

The SECRETARY OF THE INTERIOR.

REPORT

OF

THE COMMISSIONER OF PENSIONS.

DEPARTMENT OF THE INTERIOR,
BUREAU OF PENSIONS,
Washington, September 15, 1893.

SIR: The number of pensioners on the rolls June 30, 1892, was 876,068. During the year since that date 121,630 new pensioners were put upon the rolls, 2,004 who had previously been dropped were restored, and 33,690 were dropped for death and other causes. The net increase of pensioners during the year was 89,944, and on June 30, 1893, the number of pensioners on the rolls was 966,012.

INCREASE AND DECREASE.

The increase and decrease among the various classes of pensioners was as follows:

Increase.—Nurses, 284; invalid Army pensioners under the act of June 27, 1890, 81,350; Army widows and dependents under the same act, 33,142; invalid Navy pensioners under the same act, 2,785; Navy widows and dependents under the same act, 1,197; widows of soldiers of the Mexican war, 87; soldiers of Indian wars, 2,544; widows of soldiers of Indian wars, 1,338.

Decrease.—Invalid Army pensioners for disabilities of service origin, including persons pensioned by special acts, 29,090; widows and dependents of such pensioners, 1,041; Navy pensioners of same class, 264; widows and dependents of such Navy pensioners, 17; survivors of the War of 1812, 79; widows of soldiers of the War of 1812, 1,226; soldiers of the War with Mexico, 1,066.

During the same year 24,715 claims for increase of pension and 31,990 claims for additional pension under the act of June 27, 1890, were allowed; and 115,221 claims for pension and for increase were rejected. On July 7, 1893, there were undisposed of and awaiting action, or in different stages of preparation and advancement, original claims for pension, and claims for increase, etc., to the number of 711,150.

Eleven bounty land warrants were issued during the year; and 298 claims for land warrants were rejected; and 113 such claims were pending at the close of the year.

MONEYS PAID FOR PENSIONS.

The amount of money paid for pensions during the year was $156,740,467.14. The salaries of the pension agents, with their clerk hire, rents, fuel, lights, and contingent expenses, amounted to $526,642. The payments have been made with celerity and dispatch and without loss to the Government. Examining surgeons have been paid $888,233.37 within the year, and with $105.00 recovered during the year on account of erroneous payments, there was an available balance of $361,871.63 of the appropriation for the fiscal year 1893. The balances of all the appropriations for pensions, and the other expenses incident thereto, at the close of the year was $2,437,371.40.

During the same year there has been paid fees of examining surgeons for 1891, $381,918.83, and for 1892, $376,694.88, and for clerk hire in United States pension agencies in 1892, $3,766.83, from the appropriations for those years, respectively.

The accompanying tables, most of which were prepared by the chief of the finance division, are full, and show the work of the Bureau and its expenditures for the past year and the present condition of the pension roll.

APPROPRIATIONS.

The appropriations already made for the year ending June 30, 1894, will, in my judgment, be ample, except that an additional appropriation of $300,000 should be made for the per diem and expenses of special examiners. The work of the special examination division has increased, and it is most important, as will be shown further on in this report. It is probable that an additional appropriation will be necessary to provide for the payment of the fees and expenses of examining surgeons for the current year. These boards, selected with care and intended to be composed of the most competent and reputable surgeons, make personal examinations of applicants for pensions, and their reports of the results of such examinations constitute the most important evidence in the adjudication of claims, and especially in respect to ratings where pensions are allowed.

The estimates for the year ending June 30, 1895, have already been submitted. If these were based wholly on the experience of former years and the capacity of the force of the Bureau to handle cases through the former stages of examination to allowance, the result would be a much larger estimate. But 1895 is thirty years after the close of the civil war. The pension roll, in view of its size, compared with the number of men enrolled in that war will, in my opinion, by that time have reached its highest limit and begin to decrease. The falling off

in the presentation of new claims appears from the fact, shown by the last report of my predecessor (p. 11), that there were on October 12, 1892, 788,061 claims pending in the Bureau, while, as before stated, on July 7, 1893—not quite nine months later—the number of claims pending had been reduced to 711,150. It is apparent, therefore, that the filing of new claims and claims for increase has ceased to exceed the number of cases disposed of by the work of the Bureau, and that a rapid diminution in the number of new claims may be expected.

The estimates for the year 1895 are as follows :

For pensions	$160,000,000
For surgeons' fees	2,000,000
For salaries of pension agents	72,000
For clerk hire at pension agencies	500,000
For fuel at pension agencies	750
For lights at pension agencies	750
For rents at pension agencies	23,070
For contingent expenses	35,000
Total	162,631,570

The experience during the time that will yet elapse before appropriations for next year need be made, will, it is hoped, give such light as will admit of the making of a closer estimate.

PENSION LAWS.

A codification of our pension laws, with such slight changes as will make them harmonious, is much needed. At present they consist of many seperate acts, framed with little reference to each other, and often giving rise to perplexing questions, such as the question whether pension accrued but not paid at the death of a pensioner shall go to his widow and minor children, or in payment of expenses of last sickness and burial, or be paid in the discretion of the Secretary of the Interior to the legal representatives of the deceased pensioner, or shall lapse.

Aside from special acts granting pensions to individuals, these laws enacted prior to the act of June 27, 1890, so far as they related to service in the war of the rebellion, granted pensions with reference to rank, in most cases, and to disabilities of service origin. For many specific disabilities Congress designated special rates of pension, and provided generally that for inferior disabilities of a permanent character amounts proportionate to that provided for total disability should be granted. Under this general provision the Commissioner, with the approval of the Secretary of the Interior, has fixed schedules of rates for such inferior permanent disabilities of service origin.

ACT OF JUNE 27, 1890.

But, recognizing the difficulty of tracing disabilities to service origin after a long lapse of time, and the fact that deserving soldiers, who in their advancing years were incurring disabilities not of service origin, unfitting them from earning a support by manual labor, were proper

objects of the national bounty, the act of June 27, 1890, was passed providing that all persons who had served in the military or naval service of the United States, in that war, ninety days or more, and had been honorably discharged therefrom, and who were suffering from a mental or physical disability of a permanent character, not the result of their own vicious habits, which incapacitates them from earning a support by manual labor, shall be pensioned at not more than $12 nor less than $6 per month, proportioned to the degree of inability to earn a support.

Under this act, aside from the requisite service and honorable discharge, there is but one condition that can give any right to pension, viz, "a mental or physical disability of a permanent character, not the result of their own vicious habits, which incapacitates them from the performance of manual labor in such a degree as to render them unable to earn a support." But by Order 164, issued October 15, 1890, the Commissioner, with the approval of the Assistant Secretary, directed that specific disabilities should be rated in applications under this act as they would have been rated under the schedules then in force, if of service origin, up to $12 per month. The medical referee stated in answer to inquiry that under this order the capacity of a claimant under the act of June 27, 1890, to perform manual labor was no longer even considered in adjudicating his claim, but that his disabilities were rated, up to $12 per month, as if his claim had been made under prior laws for like disabilities of service origin.

It is perfectly clear that under this order 164 in granting pensions under this act of June 27, 1890, the act itself was set aside and disregarded, with the result of granting pensions not authorized by any law. This was shown in the Bennett case, which called your attention to this order, and to the practice under it. There the claimant, applying under this act of June 27, 1890, was pensioned at $12 per month for slight deafness, not of service origin. This slight deafness could not interfere with his capacity to perform manual labor; and such a pension has no warrant to sustain it in any law. It is absolutely void. The statement of the medical referee, above mentioned, made it appear probable that under order 164 many pensions were illegally granted, and, pursuant to your order of May 27, 1893, a board of revision was formed of the ablest and most experienced men of the Bureau to examine the cases allowed under that act and cull out such as had no legal basis to rest upon; but with instructions to disturb no case where, by the most liberal construction of the evidence, the right to the pension could be sustained under any law. In cases where it was believed that pension could not be sustained and another medical examination was thought necessary, the payment of the pension was ordered to be suspended pending investigation, according to the practice of the Bureau from the beginning; and at the proper time the usual sixty-day notice was given the pensioner, within which he could ask for a medical examination or supply further evidence of his right to his pension.

This practice of the Bureau, always followed, is the correct practice. It is not the withdrawal or taking away of a pension, but the temporary withholding of its payment, where it appears to be unlawful, pending a proper inquiry. Upon your suggestion that even this temporary withholding might work hardship where upon the face of the papers it appears that the pensioner is entitled to at least some less rating, the practice has been modified and changed as to the cases under this act, so far that suspensions of payment pending the sixty days are only ordered when on the face of the papers it appears *prima facie* that the pensioner is not entitled to any pension. It is certain that there are many cases like the Bennett case, where persons not entitled to any pension will be removed from the rolls, but the work has not yet proceeded far enough to enable me to forecast the result. Undoubtedly under the system of adjudication which followed the promulgation of order 164, many persons perfectly able to perform manual labor, under the persuasion of claim agents familiar with the effect of that order, applied for and received pensions for specific disabilities not of service origin, and not properly pensionable under the act of June 27, 1890. This also accounts for the large proportion of late claims under that act, comprising the aftermath in the work of claim agents, which are now being properly rejected.

WORK OF THE BUREAU.

Precedence is no longer given to cases under the act of June 27, 1890, but claims for pension under the prior laws, for disabilities of service origin, are now adjudicated in their order, where the evidence is complete. So far from holding back this class of claims, I think they should have precedence as being older and more meritorious.

The "completed files" system which had been in use for some time has been discontinued. It was found that claim agents frequently reported cases as completed and ready for adjudication where they had failed to furnish necessary evidence that had been called for; entailing much additional work in handling files, and retarding rather than accelerating the work of the Bureau. One of two things had to be done; either adjudicate all cases finally when the claim agents announced them complete and reject the claims when the evidence was lacking, as would be done in a law case which the attorney called for trial, or abolish the system altogether. The latter course has been adopted, as more favorable to claimants.

I will not enlarge this report by including in it the separate reports of chiefs of divisions, showing the work of the Bureau in detail. The business is well systematized, the chiefs efficient, and the clerks orderly and diligent. The work progresses as rapidly as is consistent with proper care and attention to the real merits of the claims which are to be examined and adjudicated.

But I have considered it useful to append the reports of the chiefs of the law division and of the special examination division, covering, as they do, matters outside of the routine work of the Bureau and of a character deserving special attention.

SPECIAL EXAMINATION DIVISION.

An intelligent corps of special examiners is of the highest importance, not only in the discovery and prevention of frauds, in which they annually save to the Government many times the amount of the expense incurred, but they often discover and bring to light evidence which aids honest and deserving claimants in establishing their claims. Their sole duty and aim is to get at the real facts of every case examined; and all examinations of witnesses relative to particular claims are made after notice to the claimants, who may participate therein, and may themselves procure witnesses for examination.

Wholesale frauds like those discovered at Norfolk, Va., in New Mexico, and Iowa, referred to in these two appended reports, were brought to light by intelligent special examiners. In the two instances first mentioned hundreds of fraudulent pension claims had been allowed by the Bureau on testimony manufactured and forged by the claim agents; and other hundreds of like claims, from the same claim agents, were pending in the Bureau. Although the principal culprits have upon prosecution pleaded guilty, and are undergoing punishment, the special examiners are still engaged in ascertaining the extent of the frauds and the particular cases included in them. In the Iowa case the claim agent had secured control of several local medical boards, usually by insidious methods, as by having the claimant, a brief time before examination, come to a member of the board for prescription and treatment, paying his fee therefor. After repeating this so often that the surgeon could not fail to understand that he was really getting extra pay from the claimants, the claim agent was able to procure from him copies of the surgeons' reports to this Bureau and notably high ratings for his clients. I at once dismissed the examining boards that were so implicated, and suspended the claim agent from practice. He is now being prosecuted, as is also one of the examining surgeons. The result of the claim agent's practices was the allowance of pensions, at high rates, to nearly all his clients in the vicinity, bringing into that community a steady influx of money in considerable amount, going into all the channels of business. So corrupting was this influence that a strong disposition was manifested to mob the special examiner when it was found that by his tact and address he had obtained from the possession of the claim agent a considerable mass of incriminating papers, likely to show the real facts and to unsettle many pensions obtained by fraud and improper practices. The work of this division has largely increased, and its force should be augmented, and I have therefore asked for an additional appropriation for this service. In

country towns and in cities of less than 20,000 inhabitants it has been the practice to make inquiries of postmasters respecting the character and standing of witnesses in pension cases; but in larger cities where the necessity for such inquiry is certainly as great, postmasters can not furnish such information, and it has therefore not been sought from any source. It is deemed advisable to have such inquiries, in the large cities, made by special examiners, and this alone will considerably increase the work of this division.

LAW DIVISION.

The law division is charged with very important duties, including all matters relating to the standing and conduct of attorneys and claim agents and their fees; all questions of law arising in the Bureau, and upon appeals to the Secretary of the Interior, and all cases of fraud or improper practices brought to light by the special examiners, or otherwise. Its relation to the special examination division is intimate, and its services in respect to the cases of fraud adverted to have been efficient and considerable; as they have also in other cases of individual fraud, notably in the case of Dan Benton *alias* William Newby, lately convicted in the United States district court at Springfield, Ill. In that case a vagrant criminal, who had for thirty years divided his time pretty equally as the inmate of penitentiaries and almshouses, attempted to represent a Union soldier who was killed at Shiloh, and had filed a claim for pension, which, if allowed, would have brought him a very large first payment. The fraud was brought to light by the persevering labor of a special examiner and the intelligent action of the law division. Full credit should also be given to W. E. Shutt, esq., the district attorney, who represented the Government in the trial with such vigor and ability as has been rarely displayed in prosecutions for frauds in pension cases. The chief of the law division and his principal assistants are men of superior ability and attainments, and are well deserving of higher compensation than they are now receiving. It seems to me but just that they should have salaries corresponding with those of the principal officers of the medical division.

EFFICIENCY RECORD.

The efficiency record in use for some time, and intended to show the punctuality, attendance, industry, conduct, aptitude, accuracy, and ability of all the clerks, and by an "automatic system" relieve the chiefs of divisions and the Commissioner of all care and responsibility in respect to recommending promotions, can not I think be relied on for such purpose, with justice to the most deserving. The punctuality, attendance, industry, and conduct of any clerk can be easily and fairly noted; and a record of these qualities should be kept, as of use in determining whether a clerk should be retained or discharged should

such question arise on a reduction of the force or otherwise. The superior qualities of accuracy, aptitude, and ability can not be fairly noted in this way as between clerks engaged in different kinds of work. The work of a clerk using a stamp, or handling files, or merely copying, may be compared with that of another clerk similarly employed, but can not be intelligently marked as against the work of an examiner, or of one engaged in the law, medical, or finance divisions, or on the board of review. The efficiency of the latter classes of clerks can only be noted by the careful observation and intelligent judgment of the chiefs of division. But it should be constantly noted, according to some suitable method, practical for use. I respectfully recommend that this matter receive careful consideration. Promotions should be made with regard to merit alone, and in utter disregard of what is called "influence."

THE PENSION BUILDING.

The roof of the Pension Building should be thoroughly repaired, without long delay. Over the main hall the roof consists of iron rafters springing from the walls, and crosswise between these, and fastened to them, are iron bars, on which rest the heavy tiles that support the tin roof. The expansion and contraction of the iron often breaks the tiles, and pieces fall to the floor from this great height, endangering persons who may be in that part of the building. A ceiling of corrugated steel bolted to the rafters or iron bars would eliminate this danger, and much improve the appearance of the building. The tin covering of the roof has sustained serious injury in a recent storm, and needs repairs.

The admitted files occupy sixteen rooms of the fourth floor of the building, and consist of 1,237,676 cases, strapped in bundles averaging more than 20 pounds in weight. During the year 1,069,957 cases were handled here, each case requiring the lifting of one of these bundles in removing it, and again in replacing it. This heavy work is done in comparatively low rooms right under the roof, and very much heated in the summer. Some relief should be given to the file clerks employed here, by means of electric fans, or some other efficient method for producing proper ventilation.

NONRESIDENT PENSIONERS.

A clause of chapter 187 of the Public Acts of the second session of the Fifty-second Congress provides:

> That from and after July 1, 1893, no pension shall be paid to a nonresident, who is not a citizen of the United States, except for actual disabilities incurred in the service.

I respectfully ask your attention to this clause, in the hope that you may recommend its repeal. It causes great trouble and annoyance to the ex-

cepted classes, who constitute the great bulk of nonresident pensioners, in compelling them to make proof that they belong to these excepted classes. And the final result is that payments under it are withheld from but few, save widows and dependent mothers, who have little else for their maintenance. The saving is too little to offset the suffering inflicted in individual cases. If all nonresidents were refused payments of pension some plausible argument might be made in support of such policy; but none can be urged in favor of this law, which, while giving annoyance to all, strikes only the most helpless.

I should not feel warranted in asking attention to this law, but for the fact that it entails much work on this Bureau, in answering communications, and seems to yield little practical results except annoyance and apparent cruelty. I recognize to the fullest extent that my sole duty is to execute and administer the laws as they are enacted—fairly and honestly interpreted.

Very respectfully,

WM. LOCHREN,
Commissioner.

The SECRETARY OF THE INTERIOR.

REPORT OF LAW CLERK.

DEPARTMENT OF THE INTERIOR, BUREAU OF PENSIONS,
Washington, D. C., August 1, 1893.

SIR: I take pleasure in submitting herein a report of the business transacted by the law division for the fiscal year ending June 30, 1893, together with a suggestion of needed reforms in the laws and in the practice relating to pensions.

When I assumed charge of the division, it was subdivided into three sections, known as (1) the appeal section, (2) the criminal section, and (3) the fee section. Logical precision was absent from the classification of the duties assigned to each and to all. The appeal section, which should have had supervision of questions concerning the merits alone, was cumbered with the charge of the attorneys rolls, and with the records of officers authorized to authenticate declarations and evidence. From these sprang much work relating to transfers of claims for pension; to the standing of attorneys, and to their changes of post-office address. The criminal section, which should have devoted its energies exclusively to the preparation of proceedings looking to proof of violations of the laws, to the punishment of the offenders, and to the recovery of funds improperly paid by the United States, was burdened with the miscellaneous correspondence of the division, to say nothing of the examination of completed files slips, or of the settlement of questions of marriage and divorce and guardianship. To the legitimate duties of the fee section were added the inspection of those circulars which attorneys are required to submit to this Bureau for approval before they are permitted to circulate them; the recommendations of disbarment; the consideration of complaints against magistrates and others, relative to improper professional practices; and the authentication of copies of affidavits or other evidence for courts or for executive departments.

On July 1, 1893, I rearranged the division, by adding a fourth section, known as the miscellaneous section, which I have placed in the charge of Dr. E. B. Olmstead—a young man of force, integrity and executive ability. As its name imports, this subdivision has charge of all miscellaneous matters other than those considered by the law clerk or by his assistants, Mr. J. O'C. Roberts and Mr. W. T. Pierson. To it, therefore, has been given jurisdiction over the attorneys rolls, the records of authenticating officers, all matters of transfers of claims for pension, changes of address of attorneys, and all questions of guardianship, marriage and divorce. But, since this section was not organized during the fiscal year, the report of the division will be in accordance with the former subdivision.

During the period between June 30, 1892, and June 30, 1893, the appeal section disposed of the following business:

Attorney desk, Section A.

Attorneyship verified, including all classes of claims	226,566
Circular letters sent with blank oaths of allegiance and instructions to those desiring recognition as attorneys or agents	1,498
Certificates of qualifications and oaths received from applicants for attorneyship, and forwarded to the Honorable Secretary of the Interior for his consideration	159
Names enrolled on roster of new attorneys empowered by the Secretary of the Interior to prosecute claims before this Bureau	756
Transfers of attorneyship	54
Disbarments of attorneys	24
Prohibitions from practice before this Bureau of attorneys under section 5498, Revised Statutes	17
Restoration of attorneys to practice before this Bureau	11
Death of attorneys	68
Changes of address and additional address of attorneys	184
Papers containing charges against or relating to attorneys jacketed, names indorsed on index, and placed in attorneys' files	164
Papers forwarded to other divisions	20,356
Calls answered from the different divisions asking the status of magistrates	49,401

Circular letters addressed to magistrates	1,934
Certificates as to the official character of magistrates received, jacketed, and recorded	28,637
Imperfect certificates as to the official character of magistrates returned for correction	1,222
Blanks sent to be used by clerks of courts in certifying to the official character of magistrates	297
All letters written	707

Appeal desk, Section A.

Motions for reconsideration of former departmental decisions received	104
Appeals on question of title received	2,161
Total number of appeals received	2,265
Reports to the Secretary on pending appeals	5,598
Papers referred to other divisions	3,110
The action of this Bureau was affirmed by the Secretary in cases	1,942
Dockets searched	3,009
The action of this Bureau was reversed by the Secretary in cases	168
Cases reported to Congress	84
The action of this Bureau was modified by the Secretary in cases	35
Former departmental decisions reversed on motion for reconsideration	9
Action reversed by this Bureau and claim allowed with appeal pending	36
Referred to the Secretary with evidence to reopen the claim after the action of rejection had been affirmed on appeal	34
Appeals dismissed or withdrawn	174
Motion for reconsideration denied	55
There are now pending awaiting reports on appeal	2,852
Claims examined and referred to other divisions for further action	1,816
Pages of matter typed	14,621
All letters sent out	2,009

During the period between April 8, 1893, and July 2, 1893 (or not quite the entire term of my administration of the division), this section performed the work set forth in the following tables:

Appeal desk.

Appeal cases reported to the Secretary	2,262
Claims examined and referred to other divisions	425
Papers referred to other divisions	1,182
Number of letters sent out	1,225
Pages typed	5,014
Dockets searched	3,009
Cases drawn from files	1,741

Attorneys' desk.

Attorneyship verified, including all classes of claims	37,458
Circular letters sent with blank oaths of allegiance and instructions to those desiring recognition as attorneys or agents	530
Certificates of qualifications and oaths received from applications for attorneyship forwarded to the honorable Secretary of the Interior for his consideration	33
Names enrolled on roster of new attorneys empowered by the Secretary of the Interior to prosecute claims before this Bureau	118
Transfers of attorneyship	13
Suspension of attorneys	0
Disbarment of attorneys	6
Prohibition from practice before this Bureau of attorneys under section 5498, Revised Statutes	8
Deaths of attorneys	28
Changes of address and additional address of attorneys	42
Papers containing charges against or relating to attorneys jacketed, names indorsed on index, and placed in attorneys' files	58
Papers forwarded to other divisions	5,665
Calls answered from the different divisions asking the status of magistrates	11,870

Certificates as to the official character of magistrates received, jacketed, and recorded	6,771
Imperfect certificates as to the official character of magistrates returned for correction	293
Blanks sent to be used by clerks of courts in certifying to the official character of magistrates	87
Notarial commissions returned	0
All letters written	225

A comparison of these figures with those for the entire year shows that more has been accomplished in the realm of appeals, during the last quarter, than the average for the three preceding quarters; while less was done by the force upon the attorney's desk. This is satisfactory in each instance, for the diminution of the work of the latter results from the greater thoroughness with which the adjudicating divisions of this Bureau are now preparing cases. Such care necessitates the examiner's expenditure of more time upon each claim. As the labors of the clerks upon that desk arise, in large measure, out of calls made by examiners, there have been fewer replies by them because they have had fewer inquiries to answer. The time not thus employed by them has been used to advantage in other labors incident to the division, of which mention will be made in another part of this report.

During the year ending June 30, 1893, the criminal section has accomplished much, as readily appears from the following statement:

Cases acted upon during the fiscal year	8,297
Letters written during the fiscal year	8,811
Circulars written during the fiscal year	2,266
Special examiners' reports reviewed	534
Completed files slips reviewed	186,566
Money illegally withheld, recovered on instructions from criminal section, and turned over to pensioners	$999.00
Money illegally obtained, recovered as the property of the United States, and covered into the Treasury; and by judgment and sale following suits in court	18,808.62
Total	19,807.62
Of which recovered by judgment for United States, in civil suits instituted through criminal section	4,861.67
Cases submitted for criminal prosecution during fiscal year	115
Persons arrested and bound over	100
Persons indicted	145
Persons convicted	73
Persons sentenced	60
Persons acquitted	40
Cases nol-prossed	1

For the period comprised within April 1, 1893, when I assumed control, and June 30, 1893, the following was accomplished:

Cases acted upon between April 1 and June 30, 1893	3,111
Letters written during same period	2,794
Completed-files slips reviewed between April 1, 1893, and May 13, 1893, when the completed-files system was abolished	21,100
Amount of the whole sum for the fiscal year recovered between April 1 and June 30, 1893, through the operation of the criminal section	$14,417.59

Criminal Statistics.

Between April 1 and June 30, 1893:

Arrests	53
Indictments	77
Convictions	39
Sentences	34
Acquittals	13

Comment is unnecessary. The figures speak for themselves.

The work of this section of the division has been fascinatingly interesting. Perhaps it may not be inappropriate to note some of its labors.

In the Territory of New Mexico it was found that wholesale forgeries of evidence had been perpetrated. One defendant has already received a sentence of seven years in the penitentiary. A corps of trusty examiners, taken largely from this division, is engaged in investigating the frauds involved.

At Norfolk, Va., facts have come to light which will illustrate some of the schemes by which large sums have been paid from the United States Treasury, for the receipt of which there was no legal warrant. Impatient of the delay which waits upon the production of claimants and witnesses, one attorney (who is said to have grown independent in fortune) created both claims and proof. At present he is serving a short term of imprisonment, while various other indictments affecting him, his aiders and abettors await trial at the coming term. I have no reliable data showing with absolute accuracy of how much the United States have been robbed in this vicinity, but the sum of $55,000 or more has been paid out under the act of June 27, 1890, through the claims of one man alone. Should we estimate future payments on the basis of life-insurance tables, they would have cost the United States more than $300,000. Nor is the vice of these transactions confined to this one man. Others—some of whom are high in social circles—have applied the same methods. They will have meted out to them similar punishments, unless there be miscarriage in the courts. Prosecutions, not persecutions, will be the maxim; but no distinction of person will be made in any case. However high the offender, he will meet his just deserts; however humble, justice will be done him. Besides this, not less than two hundred and fifty pending claims, arising in this quarter, have been rejected because they were founded on spurious declarations and evidence. But for this inquiry they would have been admitted. Averaging them at two years each at $8 a month, they would have drawn from the Federal Treasury $48,000 more, to swell the amount of $55,000 already disbursed in the claims described above.

The trial of Dan Benton, *alias* William Newby, for making a false claim and for perjury, has resulted in conviction. This cause will rank in interest with the celebrated Tichborne trial. The records of the War Department show that William Newby, from White County, Ill., was killed at Shiloh April 6, 1862, and buried on the battle field by his friends and tentmates. His family had grown up and his wife had moved to Texas, when some time in 1891 a stranger walked into the streets of Carmi and announced himself as William Newby. He gave what seemed a satisfactory account of his absence, explaining that his wound upon the head had made him insane. His wife was sent for and, after examining him somewhat, declared he was the missing Newby. She had been pensioned as his widow for nearly thirty years. Immediately she ceased to draw her pension and Newby applied himself. His stake was a large one, inasmuch as, if allowed, his claim would yield from $15,000 to $20,000. Unfortunately for him, however, the United States found discrepancies between the alleged Newby and the real one. For instance, Newby, the soldier, should be 69 years old, while this man was but 49. Newby's eyes were blue, while this man's were dark. Patiently exploring his history it was shown that the man was Dan Benton, or "Rickety Dan," who had emigrated with his parents from White County, Ill., when he was but 8 years of age. He had never been in the Army at all; had raised a family in Tennessee and lived about in poorhouses, serving terms occasionally for horse stealing and other felonies. The United States were able to account for his location every year save one. Public sentiment divided. Even the press of the State took sides. A "Newby" league was formed and counsel engaged in his behalf. At the trial the defense took to the United States court at Springfield, Ill., one hundred and forty witnesses, while the United States called sixty from Tennessee, and Newby's widow declared he was her husband and one son stoutly supported her. Newby's daughter and brother repudiated him and told of marks not shown on the defendant. A spirited trial ensued and feeling ran high, but the jury were out only ten minutes, returning with a verdict of "guilty." A motion for new trial is pending. Intense excitement prevailed and the United States attorney, the jury, and the special examiner were threatened with violence.

Other investigations are under way, and conspiracies are being brought to light. From motives of public policy it would be improper here to individualize the cases or localities at this time, but another annual report will probably tell the tale.

For the fiscal year which recently closed, the fee section presents the fine showing set forth in the itemized statement next below this paragraph:

	First quarter.	Second quarter.	Third quarter.	Fourth quarter.	Total.
Letters written	2,602	2,802	3,550	5,338	14,292
Cases disposed of	1,769	2,184	2,484	3,719	10,156
Total cases acted on	2,143	2,637	3,053	4,483	12,316
Briefs amended	574	603	800	940	2,917
Reports on appeals	108	118	140	278	644
Special examiners' reports acted on	5	16	16	30	67
Attorneys recommended for disbarment	8	10	2	13	33
Attorneys recommended for restoration	2	4	.....	.....	6

Cases pending in section June 30, 1893 783
Amount of illegal fees recovered $5,540.80

In addition to the above statement, I submit the following report in regard to cases on appeal to the Secretary of the Interior relative to attorneyship or contested fees:

Appeals referred	930
Reports transmitted	875
Decisions approved	505
Decisions reversed	25
Decisions modified	29
Decisions adhered to	30
Appeals dismissed	240
Further reports requested	4

It will be seen that of the 589 decisions only 25 reversed and 29 modified the action of this Bureau. This is a very gratifying showing, considering how difficult many of the cases are to settle and the good ground often for differences of opinion in the application of the law and rules.

I have no cause to be ashamed of the record of this section since I assumed control of the division. A contrast of the work done during the fourth quarter of the fiscal year with that accomplished during the preceding quarters will warrant this assertion. But I desire to make no invidious comparisons.

In this connection, I wish to impress upon you the inadequacy of the compensation of the clerks in the law division, and to urge that steps necessary to its correction be taken. A glance at the roster will show that many of the men who are performing the arduous labors incident to the Division are drawing $900 or $1,000 or $1,200. The service of intellects trained in the law is imperatively demanded; for the questions arising daily are of the utmost difficulty, and range from criminal procedure to the official character of a justice of the peace. Under this Administration many abuses have required correction, and the brunt of battle has necessarily fallen largely upon the law division. But how can the most valuable minds be retained in the performance of these duties when the special examination division—the half-sister of this division—is able to compensate its men at the rate of $2,300 a year, when I cannot offer even $1,800 per annum? The embarrassing predicament of allowing first-class clerks to leave the law division for that division, or of standing in the way of their advancement, has frequently faced me. I have not felt it right to bar the betterment of deserving men; and hence I have lost the services of ten ambitious, energetic young lawyers, who are now in the field. Unless something is done for the law division this drain will continue, and this branch of your office will serve only as a training school. Greater results would undoubtedly have been accomplished since April 1, 1893, had not the force been continually changing—a process which has necessitated the constant instruction of new men, with loss of time upon both their part and that of section chiefs. I earnestly recommend, therefore, that the clerks in my division be paid salaries at $1,800 and $2,000. If necessary, Congress should be asked to appropriate specifically for that purpose. In such legislation they might be designated as legal reviewers.

I trust that I shall not be deemed immodest, if I refer to the reforms wrought in the law division since April 1, 1893. Were it possible, I would omit a description of these; but the report would be incomplete without brief mention of them, which I shall endeavor to make as concise as possible. Blank forms have been prepared and printed in copying ink, and are now in use. There are twenty of these. Their employment has enabled me to dispense with the services of one typewriter, while those remaining have been able to relieve the clerks of the labor of directing and sealing the envelopes to the letters prepared by them. The time thus saved to the clerks has been occupied in duties of a more responsible and exacting nature.

Some additions have been made to the library of the division, but the authorities at my disposal are entirely inadequate. Whenever a question of paramount importance has arisen, it has required the sending of one or more persons to the Congressional law library for the verification of citations. As the duties of my desk have detained me in the bureau, I have had to rely upon the aid of others in this delicate work, instead of visiting the library in person. Most of the opinions rendered by me have been prepared at home; but even then I have felt a need of the text-writers and other authorities for convenient reference. I would suggest, therefore, that Congress be asked to appropriate an annual fund of $500 for the purchase of law books for the library of the law division, such purchases to be made by the law clerk, under the personal supervision of the Commissioner of Pensions. There is nothing radical in the proposed legislation. Similar provisions have long since been made for the Patent Office, the General Land Office, and other bureaus.

The miscellaneous letters, which were formerly answered by one clerk, are now distributed to the various sections of the division having charge of the matters noted in such correspondence. Those which are not referable to a section are con-

sidered by the law clerk, or by the assistant chiefs of the division. By this course, those who are most familiar with a subject deal with inquiries arising from it; and the clerk who was formerly engaged in this work is enabled to lend his services to the appeal section.

The weekly work reports are now prepared on a printed blank. Uniformity has taken the place of diversity. Such reports have likewise been extended in their scope, so as to show week by week whether the division is diminishing the arrears of work pending when I was designated as its chief.

The old system of letter books has been abolished. Those of former years have been collected, classified by subject, and arranged upon shelves, so that they are readily accessible. Heretofore they were scattered over the division; and some of them had been removed entirely from its jurisdiction. A large number of letter books, some of them a year old, had not been indexed. Work has progressed steadily in this direction; and in a short while all will be completed in this particular. A new series of volumes, upon a more logical system, has been opened, to commence with July 1, 1893.

New dockets have been provided for cases involving questions of guardianship-marriage and divorce, and other subjects, considered by the law clerk or his assis, tant chiefs. Heretofore, these cases have been usually recorded on the dockets of the criminal section. Much time has, therefore, been lost in searching for particular cases. Hereafter, only those relating to the subject will need examination. For instance, a case involving guardianship will appear on the guardianship docket, and search will be made upon that record alone. The same rule will apply to those touching marriage and divorce, which will be found upon the marriage and divorce docket, while those settled by the law clerk or his assistants will appear on the chief's docket.

New desks have been obtained for many of the clerks; and new file cases have been procured, to hold the papers of the division in methodical order and in relative cleanliness. The new files have been required, because a change has been found necessary in the system of attorneys' files. Heretofore, criminal charges against attorneys, transfers of claims from one attorney to another, and miscellaneous letters, orders, and circulars, have been kept in alphabetical order in one set of files. I have busied a part of the force in rearranging these papers, so as to separate them into three distinct files: (1) criminal files; (2) civil files; and (3) miscellaneous files. Under the new system, the papers in each case are arranged chronologically, numbered, and indorsed with the name of the attorney, the date of the communication, and a brief statement of its contents. When this system is completed, it will save much time, and will obviate the loss of papers.

A consultation room has likewise been placed at the disposal of the division. The great value of such a room is readily apparent, when it is remembered that much of the work is of such nature as to require secrecy in the preliminary stages of preparation for investigation of frauds and punishment of crimes.

It now becomes necessary for me to offer certain suggestions for your consideration.

Where dispute over a point of law arises between the board of review and an adjudicating division, would it not be well in every instance to have the case referred to the law division for an opinion upon the question involved? In this way, uniformity of practice throughout the entire office would be secured, and the point at issue would receive the consideration of trained legal minds, working in subordination to your orders.

Where there is a contest between attorneys as to the right to recognition in a particular pending case in which certificate has not yet issued the matter should be settled by the law division. Many of the adjudicating divisions refer such cases here, but the practice is not uniform. A general rule should govern. The advantages of such action are obvious, since the law division, which reports upon all appeals and receives the decisions of the Secretary of the Interior, is more thoroughly cognizant than any other division of the law and practice relative to attorneyship and contested fees. Much complaint arises among the members of the bar because of improper recognitions by the adjudicating divisions, and frequently the dissatisfaction is well founded. When the cases come to the law division, after certificates have issued, it is often too late to rectify a mistake.

All claims involving the rights of nonresidents, in which certificates have not issued, should be referred to the law division for settlement of the question of citizenship. No absolute rule can be laid down upon this subject, as it is governed largely by treaty stipulations with the respective foreign powers. It would be wise, I think, to have jurisdiction vested in this division, where the necessary research could be made with the least trouble and the greatest expedition. By this the practice would likewise be made uniform.

Where cases are believed to be meritorious but can not be admitted under the present laws, they are submitted to Congress for consideration. As the record of

special act cases is kept in the law division, and since all cases called for by Congress are transmitted through this division, it would be logical to confer upon the law division jurisdiction over the reference of the claims above noted. Order 51 provides that records of such cases shall be kept by the various adjudicating divisions. Should my views meet with your approval it would be necessary to rescind such order.

It would be well to have a force of secret agents, selected from among the special examiners or elsewhere, whose duty it would be to investigate all pension cases involving crimes and offenses against the United States. These men should receive as liberal compensation as the secret agents of other departments, and the aid of Congress should be invoked for this purpose. Where persons are steadily employed in a certain kind of work, greater skill is developed. The creation of this force would be of great benefit to the Pension Office.

Where suspensions of pension have been made because the beneficiaries are nonresidents (under the act of March 1, 1893), frequent inquiries have been made by attorneys as to whether or not they may receive fees for services in establishing the citizenship of the pensioners. Similar requests for information relative to the allowance of fees in cases of suspension under the Bennett decision have likewise reached me. Under the laws now in force the Commissioner of Pensions is not authorized to certify fees in cases of either kind. If compensation be permissible at all, it is a matter for the determination of attorney and client, to be settled between themselves. It is manifest that the former will not serve unless he be paid for his services; and it is equally apparent that such services may be of the utmost importance to the latter. This gap in the system of legislation needs attention. It should be brought to the notice of Congress, with the recommendation that a moderate fee (say $10) be allowed in such cases, to be paid through the usual channels, under the supervision of the Commissioner of Pensions.

Under certain decisions of Assistant Secretary Bussey applicants under the act of June 27, 1890, are not allowed to correct informal declarations *nunc pro tunc*, as is permitted in claims under the general laws. The result is that before the attention of the applicant is called to the informality, quite a while frequently elapses; and, as the new declaration is not allowed to relate back by amendment to the date of filing the original application, pension is lost for the intervening period. I have never believed these decisions to be sound. There is no earthly reason for discriminating against claimants under the act of June 27, 1890. When they bring themselves within the provisions of the statute, their rights are as sacred as are those of any other class. We should ever bear in mind the broad and generous purposes animating Congress in attempting to provide for those, of whom many, in their declining years, are inmates of poorhouses or almshouses, fed on the bitter bread of public charity—and we should jealously guard against any interpretation of law which results in adding an additional burden to those already borne by the poor and miserable aged, unable to provide for their own daily needs. If the claimant under the general laws may amend, the same privilege should be extended to the applicant under the act of June 27, 1890. The action of this Department should be consistent. I suggest, therefore, that the subject be brought to the attention of the Secretary of the Interior for his consideration.

Under the present practice, founded upon a decision of Assistant Secretary Bussey, it is customary to confine the application of section 4718 of the Revised Statutes to cases of invalids pensioned under the general laws. I have no fault to find with the position taken, as, in my judgment, the law now in force will sustain it. But there is no reason for discrimination. The terms of section 4718 should be enlarged so as to cover all cases, whether invalid, widow, dependent, or minors, no matter under what statute the claim may have been allowed, whether under the general laws, or under the act of June 27, 1890. Congress should be asked to amend this section along the line indicated, and the new legislation should permit payment of a fee of $2 in cases where the application for accrued pension, together with the requisite evidence, is prepared, obtained, and filed by an attorney other than the attorney who established the original claim under which the amount in question accrued.

Many pathetie letters are received by this division, in which wives write that their husbands have deserted them and their children, and ask that a part, at least, of their husbands' pension be paid to them. No provision of law covers this subject, and the Bureau has been forced to advise the complainants that the Commissioner has no jurisdiction to afford the desired relief. I suggest that the attention of Congress be drawn in this direction, so that you may be vested with power, upon proper proof, to divide the pension, or to direct payment of the entire fund, to the deserted wife or children. The statute should be broad enough to cover the cases of those pensioners who waste their allowances in drunkenness or riotous living, without providing for those who should have the first claim upon their attention. Many in-

stances occur in which the faithful but abused wife, who receives no consideration at the hands of her husband, is called upon to support him, when he has dissipated his quarterly payment. It was never the intention of the United States to provide a fund to be squandered by the pensioner, while his wife and children suffer for bread.

The act of January 5, 1893, providing increase in Mexican war pensions, is an inartificially drawn statute. The date of commencement of increase is not specifically set forth, as is usually done in laws of this kind. The phraseology is in the present tense, and no provision is expressly made for those who may be hereafter placed upon the rolls, or who may be hereafter wholly disabled for manual labor. Serious differences of opinion have arisen in the construction of this act. There should be no room for these. It is suggested that Congress amend the law, where it may be found to need amendment, so that it may become too plain for interpretation of any kind.

Mr. W. T. Pierson, the able and accomplished lawyer who is acting as an assistant chief of this division, has prepared a volume of precedents for use by special examiners, district attorneys, and others in investigating alleged wrong-doing and in prosecuting offenders against the laws of the United States relating to pensions. Mr. Pierson desires no compensation for his labors upon this work, but offers it without remuneration for the good of the service, if it should be found acceptable. I suggest that steps be taken to have it published as a public document, for which purpose Congress may be asked to appropriate the necessary amount. In this connection I desire to express, in the most public manner possible, my high appreciation of the author, who has exercised a wise supervision of the work performed by the criminal section, and has relieved me of a vast amount of toil, thus enabling me to devote my attention more thoroughly to those questions of law which have required the preparation of opinions.

Nor do I desire to omit mention of the valuable services of Mr. James O'Connor Roberts, who, as assistant chief, has labored intelligently and faithfully to advance the interests of the division in every possible way. To him has been assigned a general supervision of all miscellaneous correspondence and of the domains of guardianship and marriage and divorce. The distribution of the force of the division is under his control, and many matters of administrative detail require his constant care. Mr. Roberts is thoroughly well equipped for his duties, and I take pleasure in recommending an increase in his salary from $1,800 to $2,000 per annum. This recommendation has been made without his knowledge and is based purely upon his merit.

And the highest praise is due to the devotion manifested by the men and women who have borne the heat and burden of the day in the law division. For intelligence, character, and ability they stand second to none; and the arduous labors of the public business intrusted to their charge have been performed with an entire absence of friction, and with a rare and conscientions appreciation of the responsibilities resting upon them. This report's recital of the magnificent results accomplished by them is the loftiest compliment that can be paid them. Although myself an uncompromising Democrat, I have known no politics in the administration of the division, for an American citizen has a right to absolute freedom of thought. I have respected that right. Nor have I confined my recommendations for promotion to Democrats alone. I have made it a rule to ask for the advancement of those who have merited it by their work. As a result, Democrats and Republicans have labored with equal zeal, and the laws have been enforced impartially, with justice to all and favoritism to none.

In conclusion, I would be an ingrate did I omit to express my gratitude for the kind encouragement which you have so generously bestowed upon me many times when the incessant labors of the law division seemed more than I could endure. I have always felt free to approach you; and it has been a source of strength to me to know that your wide experience and deep knowledge of the law stood ever ready to correct me when wrong, to support me when right. So, too, the many gentle offices wrought in my behalf by your able colaborers, Messrs. Murphy and Bell, and the friendly consideration shown me by Assistant Secretary Reynolds will ever be prized by me as among the most highly valued experiences of my life.

Very respectfully,

FRANK E. ANDERSON,
Law Clerk.

Hon. WILLIAM LOCHREN,
Commissioner of Pensions.

REPORT OF CHIEF OF SPECIAL EXAMINATION DIVISION.

DEPARTMENT OF THE INTERIOR,
BUREAU OF PENSIONS,
Washington, D. C., August 14, 1893.

SIR: In compliance with instructions contained in your communication, dated July 7, 1893, herewith are transmitted tables (in duplicate) showing the operations of the special examination division, for the fiscal year ending June 30, 1893.

The following remarks are also submitted, relative to the organization and character of the work of the division.

The organization of this division during the past fiscal year was dual in character, consisting of a field force of special examiners and clerks specially detailed for field work under the provisions of section 4744, Revised Statutes, and an office force.

The field force was divided into five sections, and operated separately the territory assigned to each district, as follows: Eastern district, comprising all the Eastern States, New York, Pennsylvania, and New Jersey; Southern district, comprising Delaware, and all the Southern States east of the Mississippi River; Central district, comprising Ohio and Indiana; Northwestern district, comprising Michigan, Wisconsin, Minnesota, North Dakota, South Dakota, and Illinois; Western district, comprising the balance of the Western States and Territories.

Each district was in charge of a supervising examiner located in this city, of whom one was detailed as acting chief of division.

With the close of the fiscal year to which this report relates, the above-described organization was discontinued by operation of law. The division, however, with respect to the field force, has been reorganized partially on the plan heretofore existing, with one less district—the Northwestern district having been abolished. Michigan and Illinois have been added to the Central district. Wisconsin, Minnesota, North Dakota, and South Dakota have been added to the Western district. Arkansas, Missouri, Louisiana, Texas, Oklahoma, and Indian Territories have been detached from the Western district and added to the Southern district. Each district has a clerk in charge, located in this city, who is designated as a supervisor; but the work and operations of the field force are now directed by a chief and assistant chief, detailed from the regular office force.

The office force consists of four sections: Accounts, review, briefing and files.

The accounts section keeps an account with each special examiner, has charge of his daily reports, and examines his monthly expense account, and the accounts of railroad companies for transportation of special examiners over subsidized railroads.

The review section reviews all reports submitted by special examiners, and if the investigation has been properly conducted, the recommendations are approved; but if not, the case is returned to the special examiner with a letter pointing out the defects in his work, and further instructing him how to proceed, at the same time directing him to take credit for a case returned for faulty work. This system of faulty-work-charge has, ho vever, only recently been revived, it having fallen into disuse in 1891 and 1892 in the efforts then made to relieve this division of the great number of cases pending special investigation.

The briefing section examines all cases submitted for special investigation, to determine if properly submitted, and whether the questions submitted are proper subjects for special investigation. It makes the case-slip, which constitutes the remaining reference on file in the Bureau after the case has been forwarded to the field; it keeps a record of all cases sent to the field; and it briefs and prepares for submission to the board of review, or law division, as the case may be, all cases in which the review section has determined that the special examination is completed, and where final action is recommended.

The files section receives and records all cases submitted for special investigation, separates the face-brief and index from the remaining papers, for protection of the Bureau in the event of the loss of the original papers, and mails all cases to special examiners.

A record is kept in this division of all moneys recovered by special examiners, and this year $19.807.62 were turned into the Treasury; also a record showing the amount of saving on first payments in *prima facie* cases rejected after special investigation. This record was only begun in the month of May, 1893, but shows that $150,279.48 have been saved by special investigation since that date to June 30, 1893.

Your attention is respectfully invited to the following comparative statement relative to the average number of examiners employed during, and the number of claims

pending special investigation at the beginning of, the fiscal years 1889, 1890, 1891, 1892, and 1893, and the amount of money appropriated for the work each year:

Year.	Average number of examiners employed.	Number of cases pending.	Appropriation.
1889	254	15,806	$415,000
1890	230	10,534	415,000
1891	198	16,336	415,000
1892	114	3,517	215,000
1893	129	5,967	225,000

On the first day of July, 1893, there were pending special examination in this division 5,967 cases, and there were then employed 160 special examiners in the field. The number of cases pending at the present time has increased to 16,060, and the number of special examiners has been increased to 192. To perform this greatly increased work Congress has appropriated only $200,000.

Additional work has also been put upon this division in the investigation of all matters of complaint in relation to fraudulent pensions; as to matters of guardianship, whether the wards are still living, whether proper accountings have been made as required by law, and as to the sufficiency of guardians' sureties; and also by your recent order requiring special examiners to ascertain the credibility of witnesses in cities of 20,000 inhabitants or more, and, if necessary, to cross-examine such witnesses.

With the amount which has been appropriated for the present fiscal year for per diem, subsistence, and expenses of special examiners it will be simply impossible to make any material impression on the great volume of pending work, nor will it be possible even to keep employed in the field for the whole of the fiscal year the number of special examiners now engaged thereon.

The appropriation for the present fiscal year was estimated on a basis of an amount of work pending in the division scarcely one-third as great as at present.

Naturally, the work of this division must increase, and is increasing. As time passes, claims become more difficult to establish on account of the death of witnesses, or their failure to recall the facts, and, if recalled, not with sufficient certainty to be accepted, and only by special investigation can the true merits of the case be ascertained.

Furthermore, since the advent of the present administration, great frauds, extensive in their ramifications, have been discovered in various parts of the country, notably the Drury frauds at Norfolk; the Van Leuven frauds at Lime Springs, Iowa, and the Box "K" cases of Socorro, N. Mex.

The investigation of such cases, while taking considerable time and money, has resulted in financial benefit to the Government. One investigation alone, and the only one in which an estimate of any degree of certainty can be made, that of the Drury cases, shows that the aggregate amount saved on suspension from date of last payment of pension is $12,240. A great number of these pensioners have been dropped from the rolls, and the expectancy of future annual savings in these cases is estimated at not less than $300,000. Nearly 250 pending claims have also been rejected; the first payment alone on these claims would have aggregated $48,000, all of which would have been paid out of the Treasury but for this investigation.

Your attention is also invited to the last appropriation bill which reduces the salaries of special examiners for the present fiscal year from $1,400 to $1,300 per annnm.

In view of the importance of the field service, the very best talent should be employed in order that the desired results may be accomplished. It is, therefore, suggested that a recommendation be made for the restoration of the salaries of special examiners to $1,400 per annum. This suggestion is not made in any spirit of criticism of the action of Congress, but from the desire to see an equitable compensation allowed to persons who are engaged upon the most arduous and important class of work connected with this bureau.

In conclusion, I would also suggest, in view of the great number of cases now pending special investigation, which number is constantly increasing, that, in order to meet the exigencies of the service, Congress be called upon for an additional appropriation of not less than $300,000 for the fiscal year ending June 30, 1894.

Very respectfully,

JAMES R. FRITTS,
Chief Special Examination Division.

The COMMISSIONER OF PENSIONS.

SUMMARY OF TABLES.

Table No. 1 shows that there were at the close of the year 966,012 pensioners classified as follows: 360,658 army invalids, 284 army nurses, 107,639 army widows, minor children, and dependent relatives; 4,782 navy invalids; 2,583 navy widows, minor children, and dependent relatives (all under the general law); 365,084 army invalids; 77,838 army widows, minor children, and dependent relatives; 12,119 navy invalids; 4,114 navy widows, minor children, and dependent relatives, all pensioned under the act of June 27, 1890; 86 survivors of the war of 1812; 5,425 widows of those who served in that war; 14,149 survivors of the war with Mexico; 7,369 widows of those who served in that war; 2,544 survivors of the Indian wars from 1832 to 1842, and 1,338 widows of those who served in said wars.

There were added to the rolls during the year the names of 121,630 new pensioners, and the names of 2,004 who had previously been dropped were restored, making an aggregate of 123,634 pensioners added during the year. During the same period the names of 33,690 persons were dropped for various causes, leaving a net increase to the roll of 89,944 names.

The average value of each pension at the close of the year was $135.10; the average annual value of each pension under the general law was $157.65, while the average annual value of each pension under the act of June 27, 1890, was $113.75. The aggregate annual value of all pensions at the close of the year was $130,510,179.34.

Table No. 2 shows that during the year 33,690 pensioners were dropped from the rolls for various causes. This table is prepared in such a manner in the widows' class as to show the number of widows with and those without minor children, the number of minor children who were pensioned in their own right, and the number of dependent mothers, fathers, brothers, sisters, etc. A like subdivision has been made of the pensioners dropped from the rolls who were placed thereon under the act of June 27, 1890, and this table shows also the whole number of pensioners on the rolls, with the widows' class under the general law and under the act of June 27, 1890, subdivided in each instance so as to show the number of widows with children, of widows without children, of children pensioned in their own right, and of dependent mothers, fathers, brothers, sisters, etc.

Table No. 3 exhibits the amount of the appropriations for the payment of pensions for the fiscal year 1893, the disbursements for said purpose during that period, and the unexpended balances thereof at the close of the year.

Table No. 4 shows the amount paid out on account of pensions by each pension agent under each item of appropriation, as shown by their accounts current.

Table No. 5 shows the amount expended for army pensions and for navy pensions separately, under the general law, so arranged as to show the amounts respectively paid to invalids and to widows and others.

Table No. 6 shows the information, presented in the same manner, in cases which have been allowed under the act of June 27, 1890.

Table No. 7 shows the amount and number of first payments made at the pension agencies during the year in each class of cases. It will be seen that 184,494 first payments were made during the year, and that they amounted to $33,756,549.38. It will also be seen that the average value of all original payments made during the year was $209.52; that the average value of original payments in cases allowed under the general law was $458.21, while the average value of original payments in cases allowed under the act of June 27, 1890, was $170.36. The amount paid as fees to attorneys during the year in all classes of cases, was $1,872,178.53.

Table No. 8 shows the number of cases of each class on hand at the pension agencies and unpaid at the close of the fiscal year, together with the amounts of the first payments due therein. The average value of all original payments due on said date but not made was $240.19; the average value of original payments due but not made in cases allowed under the general law was $508.11, while the average value of all first payments in original cases allowed under the act of June 27, 1890, due but not made, was $200.05.

Table No. 9 shows the amount paid for pensions each year since 1871 to survivors and widows of the war of 1812, since 1887 to survivors and widows of the war with Mexico. This table also furnishes in a footnote a statement showing the amount disbursed during the fiscal year 1893 to survivors and widows of the Indian wars: These pensioners were placed upon the rolls by the act of July 27, 1892.

Table No. 10 is a classified statement of the number of pensioners on the rolls of each agency, and it compares the aggregate number with that of the previous year,

showing in each class the net increase or net decrease. It will be seen that the net increase to the rolls during the year was 89,944.

Table No. 11 gives the location and geographical limits of each pension agency, the name of each agent, and the balance of funds remaining to his official credit at the close of the year. These balances are covered into the Treasury at the close of the year.

Table No. 12 shows the number of original claims filed each year since 1861, the number allowed, and the number of pensioners on the rolls at the close of each year. Since the year 1861, 2,034,695 original claims have been filed and 1,357,921 claims have been allowed. Of the 119,361 applications for original pensions filed during the fiscal year 1893, 65,002 were filed by invalids, and 20,914 by widows and others under the act of June 27, 1890. In the total number of claims allowed under the acts in force during the fiscal year 1893 are included 62,291 invalids and 36,917 widows and others, under the act of June 27, 1890, as well as 2,599 survivors and 1,347 widows of the Indian wars, and 286 army nurses. This last-named class have been pensioned under the act of Congress approved August 5, 1892. Since 1871, 80,071 claims for pensions on account of service during the war of 1812 have been filed. Of this number 34,939 have been filed by surviving soldiers and sailors, and 45,132 by the widows of those who served in said war. During the fiscal year 1893 no applications were received from survivors of that war, but 49 applications were filed by widows. The number of pensioners on the rolls at the close of each year is also stated in this table, as well as the amount disbursed for pensions each year since 1861.

Table No. 13 shows the number of army invalid claims under the general law allowed each year since 1861, classified and arranged so that in each year's allowance it is shown in what years the claims were filed. The whole number of invalid claims filed is given, and it is shown what percentage of the number of claims filed each year has been allowed.

Table No. 14 shows the different monthly rates of pensions paid, respectively, to invalids and widows and others under the general law, to invalids and widows and others under the act of June 27, 1890, as well as to the survivors and widows of the war of 1812 and of the war with Mexico.

Table No. 15 shows the number of pensioners in each State and Territory, of the United States and the number in each foreign country on the rolls June 30, 1893, and the amount paid for pensions during the fiscal year 1893 in each State and Territory and in each foreign country.

Table No. 16 shows the issue of certificates during the fiscal year 1893, a grand total of 192,188.

Table No. 17 shows the operations of the Army and Navy survivors division of this Bureau during the fiscal year 1893.

Table No. 18 shows the work done by the mail division of this Bureau during the fiscal year. It will be seen that 3,980,065 pieces of mail matter were received during the year and properly distributed throughout the Bureau, and that 2,269,430 letters were sent out of the Bureau during the year.

Table No. 19 shows in brief the operations of the special examination division during the year. It sets forth the number of claims acted upon by said division and the expenditure on account thereof except salaries.

Table No. 20 gives the names, ages, and post-office addresses of the persons who were on the rolls June 30, 1893, as either the widows or children of soldiers of the Revolutionary war. It will be seen that there were 15 widows and 2 daughters, making a total of 17 persons.

Table No. 21 gives the names, ages, service, and post-office addresses of the 86 survivors of the war of 1812, who were on the pension rolls at the close of the fiscal year.

It is proper to add, in addition to the information herein given, that during the fiscal year 1893 there were 115,221 claims to pension of the various classes rejected by the board of review.

Claims pending July 7, 1893.

Old wars—Service prior to March 4, 1861:		
Original invalid	1,783	
Original widows	2,284	
		4,067
Indian wars—Act July 27, 1892:		
Original invalid	1,220	
Original widows	2,875	
		4,095
Old war—Restoration and increase		7,655
Bounty land		1,204

Service since March 4, 1861:		
Original invalid	123,581	
Original widows	81,361	
		204,942
Act of June 27, 1890:		
Original invalid	93,554	
Original widows	51,020	
		144,574
Claims under act of June 27, 1890, additional to prior applications on file under former acts:		
With pending original invalid	30,594	
With rejected original invalid	8,030	
With certificate invalid pending	25,383	
With certificate invalid not pending	43,558	
With pending widow	14,424	
With rejected widow	3,164	
With certificate widow pending	189	
With certificate widow not pending	200	
		125,542
Increase:		
Under general laws	140,616	
Under act of June 27, 1890	70,686	
		211,302
Increase and accrued widow		7,106
Army nurses		663
Total		711,150

TABLE No. 1.—*Number of pensions allowed and increased during the year, with the annual value of all pensions on the rolls.*

Year ending June 30, 1893.		Pensions allowed and increased during the year.						Dropped from the roll.		Reductions in rate.		Number of pensioners June 30, 1893.	Annual value of pensions as shown by the roll June 30, 1893.
		Original.		Increase, reissue, and additional.		Restoration and renewal.							
		No.	Annual value.	No.	Annual value.	No.	Annual value.	No.	Annual value.	No.	Annual value.		
Army—general law	Invalids	10,062	$908,799.84	23,752	$1,466,448.48	960	$118,483.20	11,389	$2,009,361.27	235	$24,404.00	360,658	$57,188,183.34
	Nurses	286	13,824.00	.....	.....	.....	.....	2	288.00	.....	.....	284	40,896.00
	Widows, etc.	7,197	1,007,795.91	643	43,685.42	107	16,219.06	8,345	1,167,215.00	985	28,800.00	107,639	16,480,164.00
Navy—general law	Invalids	170	14,316.30	267	17,149.41	13	1,638.00	191	34,062.94	1	48.00	4,782	826,848.00
	Widows, etc.	98	18,238.16	29	4,800.00	.....	.....	115	21,988.00	20	648.00	2,583	499,280.00
Army—act June 27, '90	Invalids	59,456	6,710,204.16	31,434	3,809,172.12	778	94,099.10	7,607	971,566.00	2	96.00	365,084	42,323,888 00
	Widows, etc.	35,647	3,719,051.51	264	389,456.00	134	18,139.58	2,639	276,144.00	1,033	25,488.00	77,838	8,073,560.00
Navy—act June 27, '90	Invalids	2,835	315,904.05	285	34,561.95	8	984.00	314	39,231.00	.....	.....	12,119	1,409,832.00
	Widows, etc.	1,270	135,255.00	7	84.00	1	144.00	74	9,330.00	69	1,728.00	4,114	423,472.00
War of 1812	Survivors	2	192.00	1	204.00	.....	.....	81	7,776.00	.....	.....	86	9,780.00
	Widows	16	2,304.00	9	1,394.00	.....	.....	1,242	178,848.00	.....	.....	5,425	783,228.00
War with Mexico	Survivors	205	19,680.00	18	1,531.00	2	192.00	1,273	122,208.00	.....	.....	14,149	1,369,836.00
	Widows	440	42,240.00	1	204.00	1	96.00	354	33,984.00	.....	.....	7,369	708,540.00
Indian wars, 1832-1842	Survivors	2,599	249,504.00	4	.....	.....	.....	55	5,280.00	.....	.....	2,544	244,224.00
	Widows	1,347	129,312.00	.....	.....	.....	.....	9	864.00	.....	.....	1,338	128,448.00
Total		121,630	13,286,620.93	56,705	5,768,690.38	2,004	249,994.94	33,690	4,878,146.21	2,345	81,212.00	966,012	130,510,179.34

Average annual value of each pension $135.10
Average annual value of each pension under the general law 157.65
Average annual value of each pension under act June 27, 1890 ..... 113.75

TABLE No. 2.—*Number of pensioners of the various classes dropped from the rolls during the year, with the cause, and the number of each class on the rolls June 30, 1893.*

Classes.	By death.	By remarriage.	Minors by legal limitation.	By failure to claim.	For other causes.	Total number of pensioners dropped from the rolls.	Total number of pensioners of all classes on the rolls June 30, 1893.
General law.							
Army and Navy ..... Invalids	9,428	.....	.....	950	1,202	11,580	365,440
Army and Navy ..... Nurses	2	.....	.....	.....	.....	2	284
Army and Navy ..... Widows, etc.	4,349	1,095	1,396	1,450	170	8,460	110,222
Total	13,779	1,095	1,396	2,400	1,372	20,042	475,946
Classification of widows' roll—general law:							
Widows without children	1,617	445	.....	524	69	2,655	59,825
Widows with children	187	636	.....	51	77	951	17,802
Minor children	7	.....	1,396	.....	9	1,412	2,970
Mothers	1,846	14	.....	677	9	2,546	24,073
Fathers	690	.....	.....	189	6	885	5,452
Brothers and sisters, dependent sons and daughters	2	.....	.....	9	.....	11	100
Act June 27, 1890.							
Army and Navy ..... Invalids	7,651	.....	.....	.....	270	7,921	377,203
Army and Navy ..... Widows, etc.	1,492	480	449	.....	292	2,713	81,952
Total	9,143	480	449	.....	562	10,634	459,155
Classification of widows' roll—act June 27, 1890:							
Widows without children	682	214	.....	.....	129	1,025	48,004
Widows with children	238	266	.....	.....	98	602	21,727
Minor children	4	.....	449	.....	9	462	2,706
Mothers	350	.....	.....	.....	42	392	6,221
Fathers	215	.....	.....	.....	14	229	3,249
Helpless children	3	.....	.....	.....	.....	3	45
War of 1812.							
Survivors	59	.....	.....	15	7	81	86
Widows	970	3	.....	260	9	1,242	5,425
Total	1,029	3	.....	275	16	1,323	5,511
War with Mexico.							
Survivors	770	.....	.....	166	337	1,273	14,149
Widows	224	20	.....	105	5	354	7,369
Total	994	20	.....	271	342	1,627	21,518
Indian wars, 1832–1842.							
Survivors	52	.....	.....	.....	3	55	2,544
Widows	8	.....	.....	.....	1	9	1,338
Total	60	.....	.....	.....	4	64	3,882
Grand total	25,005	1,598	1,845	2,946	2,296	33,690	966,012

Total number of children on the rolls: General law, 29,489; act June 27, 1890, 44,243.

This table does not include the cases which, during the year, were dropped from the roll under the general law and pensioned under the act of June 27, 1890, as "additional" cases.

TABLE No. 3.—*Showing the appropriations for pensions, etc., and the disbursements on account thereof for the fiscal year 1893, and unexpended balances at the close of the year.*

	Appropriations.			Disbursements.			Balances.		
	Amount appropriated, act July 13, 1892.	Amount deficiency appropriation, act March 3, 1893.	Total amount appropriated for the fiscal year 1893.	Amount disbursed by U. S. pension agents.	Amount disbursed by Treasury settlements.	Total amount disbursed.	Balance remaining in the hands of U. S. pension agents June 30, 1893.	Balance remaining in the U. S. Treasury June 30, 1893.	Available balances June 30, 1893.
Army pensions	$141,106,000	$13,844,437.35	$154,950,437.35	$152,937,821.23	$97,191.19	$153,035,012.42	$1,825,456.17	$100,358.64	$1,925,814.81
Navy pensions	3,850,000	.....	3,850,000.00	3,703,277.72	2,177.00	3,705,454.72	144,417.15	525.73	144,942.88
Army fees of examining surgeons	1,210,000	.....	1,210,000.00	866,555.23	.....	866,555.23	82,925.61	260,624.16	343,549.77
Navy fees of examining surgeons	40,000	.....	40,000.00	21,678.14	.....	21,678.14	5,020.30	13,301.56	18,321.86
Salary	72,000	.....	72,000.00	72,000.00	.....	72,000.00	.....	33.33	33.33
Clerk hire	400,000	.....	400,000.00	399,200.15	.....	399,200.15	799.85	.....	799.85
Rent	22,850	.....	22,850.00	22,650.00	.....	22,650.00	.....	200.00	200.00
Fuel	750	.....	750.00	217.22	.....	217.22	25.92	506.86	532.78
Lights	750	.....	750.00	449.19	.....	449.19	94.31	206.50	300.81
Contingent expenses	35,000	.....	35,000.00	21,009.56	11,115.88	32,125.44	918.02	1,957.29	2,875.31
Total	146,737,350	13,844,437.35	160,581,787.35	158,044,858.44	110,484.07	158,155,342.51	2,059,657.33	377,714.07	2,437,371.40

In addition to the above there were disbursed during the fiscal year ending June 30, 1893, the following sums chargeable to the appropriations:

Fees of examining surgeons, Army pensions, 1891	$379,218.83
Fees of examining surgeons, Navy pensions, 1891	2,700.00
Total	381,918.83
Fees of examining surgeons, Army pensions, 1892	368,618.74
Fees of examining surgeons, Navy pensions, 1892	8,076.14
Total	376,694.88
Clerk hire, U. S. pension agencies, 1892	3,766.83

TABLE No. 4.—*Amount disbursed at United States pension agencies during the fiscal year ending June 30, 1893, as shown by accounts current.*

Agencies.	Army pensions.									Navy pensions.			Grand total.
	Pensions.	Fees of examining surgeons.	Salary.	Clerk hire.	Rent.	Fuel.	Lights.	Contingent expenses.	Total.	Pensions.	Fees of examining surgeons.	Total.	
Augusta	$3,085,629.11		$4,000.00	$7,000.00				$248.47	$3,096,877.58				$3,096,877.58
Boston	7,749,238.30		4,000.00	24,988.54				994.93	7,779,221.77	$847,731.62		$847,731.62	8,626,953.39
Buffalo	7,595,069.14		4,000.00	19,000.00				1,011.68	7,619,080.82				7,619,080.82
Chicago	11,305,525.68		4,000.00	32,862.59				1,287.55	11,343,675.82	704,412.40		704,412.40	12,048,088.22
Columbus	16,512,526.04		4,000.00	38,507.07				1,488.24	16,556,521.35				16,556,521.35
Concord	3,411,173.28		4,000.00	8,983.33				131.30	3,424,287.91				3,424,287.91
Des Moines	9,217,633.00		4,000.00	24,000.00				699.92	9,246,332.92				9,246,332.92
Detroit	7,756,930.72		4,000.00	18,960.00	$2,180.00			650.00	7,782,720.72				7,782,720.72
Indianapolis	11,880,117.47		4,000.00	29,860.54	2,500.00		$272.19	2,347.15	11,919,097.35				11,919,097.35
Knoxville	8,299,998.00		4,000.00	20,000.00				550.00	8,324,548.00				8,324,548.00
Louisville	4,865,978.08		4,000.00	8,910.00				500.00	4,879,388.08				4,879,388.08
Milwaukee	7,791,900.51		4,000.00	19,619.85	2,668.00			836.53	7,819,024.89				7,819,024.89
New York	7,615,426.99		4,000.00	23,142.00	10,000.00			2,800.00	7,655,368.99	683,154.18		683,154.18	8,338,523.17
Philadelphia	8,468,633.93		4,000.00	25,500.00				2,150.00	8,500,283.93	494,382.77		494,382.77	8,994,666.70
Pittsburg	7,472,230.99		4,000.00	21,800.00				1,425.00	7,499,455.99				7,499,455.99
San Francisco	2,995,803.16		4,000.00	7,500.00	1,672.00	$80.00		999.67	3,010,054.83	124,778.05		124,778.05	3,134,832.88
Topeka	16,409,270.24		4,000.00	38,599.23	2,250.00			2,075.29	16,456,194.76				16,456,194.76
Washington	10,504,736.59	$866,555.23	4,000.00	29,967.00	1,380.00	137.22	177.00	813.83	11,407,766.87	848,818.70	$21,678.14	870,496.84	12,278,263.71
Total	152,937,821.23	866,555.23	72,000.00	399,200.15	22,650.00	217.22	449.19	21,009.56	154,319,902.58	3,703,277.72	21,678.14	3,724,955.86	158,044,858.44

In addition to the above there were disbursed during the fiscal year ending June 30, 1893, the following sums chargeable to the appropriations:

Fees of examining surgeons, Army pensions, 1891	$379,218.83
Fees of examining surgeons, Navy pensions, 1891	2,700.00
Total	381,918.83
Fees of examining surgeons, Army pensions, 1892	$368,618.74
Fees of examining surgeons, Navy pensions, 1892	8,076.14
Total	376,694.88
Clerk hire, U. S. Pension Agencies, 1892	$3,766.83

TABLE No. 5.—*Statement of amount paid for pensions under the general law.*

Agencies.	Army pensions.				Navy pensions.			Grand total.
	Invalids.	Nurses.	Widows and others.	Total.	Invalids.	Widows and others.	Total.	
Augusta	$1,696,189.69	$246.00	$589,655.18	$2,286,090.87				$2,286,090.87
Boston	2,717,297.45	2,597.74	1,549,204.82	4,269,100.01	$235,546.13	$142,111.14	$377,657.27	4,646,757.28
Buffalo	3,335,135.75	594.00	1,351,598.86	4,687,328.61				4,687,328.61
Chicago	5,271,890.32	1,198.80	1,753,889.28	7,026,978.40	186,750.28	76,966.71	263,716.99	7,290,695.39
Columbus	7,095,026.85	2,717.60	2,484,903.89	9,582,648.34				9,582,648.34
Concord	1,837,349.07	200.80	587,649.06	2,425,198.93				2,425,198.93
Des Moines	4,457,187.74	977.60	933,130.99	5,391,296.33				5,391,296.33
Detroit	3,777,502.88	716.27	924,768.81	4,702,987.96				4,702,987.96
Indianapolis	6,885,319.78	694.40	1,938,208.79	8,824,222.97				8,824,222.97
Knoxville	1,784,152.85	554.40	1,043,198.20	2,827,905.45				2,827,905.45
Louisville	1,646,269.33	390.40	829,755.50	2,476,415.23				2,476,415.23
Milwaukee	3,862,940.13	762.80	940,174.67	4,803,877.60				4,803,877.60
New York City	2,312,963.02	86.00	1,330,214.36	3,643,263.38	120,861.36	109,892.28	230,753.64	3,874,017.02
Philadelphia	2,678,642.46	985.87	1,277,015.03	3,956,643.36	118,230.35	77,693.37	195,923.72	4,152,567.08
Pittsburg	2,637,203.40	197.60	941,235.92	3,578,636.92				3,578,636.92
San Francisco	817,520.92	1,258.67	217,949.87	1,036,729.46	27,320.08	6,749.46	34,069.54	1,070,799.00
Topeka	5,822,374.44	1,570.00	1,576,933.28	7,400,877.72				7,400,877.72
Washington	3,922,365.83	2,594.00	1,025,873.50	4,950,833.33	167,455.31	152,319.74	319,775.05	5,270,608.38
Total	62,557,331.91	18,342.95	21,295,360.01	83,871,034.87	856,163.51	565,732.70	1,421,896.21	85,292,931.08

TABLE No. 6.—*Statement of amount paid for pensions under the act of June 27, 1890.*

Agencies.	Army pensions.			Navy pensions.			Grand total.
	Invalids.	Widows and others.	Total.	Invalids.	Widows and others.	Total.	
Augusta	$557,651.14	$189,451.35	$747,102.49				$747,102.49
Boston	2,339,562.68	1,064,529.28	3,404,091.96	$330,273.36	$139,800.99	$470,074.35	3,874,166.31
Buffalo	2,238,687.93	591,025.50	2,829,713.43				2,829,713.43
Chicago	3,216,220.62	871,215.71	4,087,436.33	364,596.54	76,098.87	440,695.41	4,528,131.74
Columbus	5,528,757.66	1,263,153.00	6,791,910.66				6,791,910.66
Concord	762,541.38	189,538.03	952,079.41				952,079.41
Des Moines	3,170,781.33	560,047.71	3,730,829.04				3,730,829.04
Detroit	2,544,821.44	459,908.37	3,004,729.81				3,004,729.81
Indianapolis	2,282,788.84	643,996.68	2,926,785.52				2,926,785.52
Knoxville	3,662,195.89	843,658.68	4,505,854.57				4,505,854.57
Louisville	1,777,729.26	470,775.96	2,248,505.22				2,248,505.22
Milwaukee	2,460,438.59	475,000.07	2,935,438.66				2,935,438.66
New York City	2,591,696.92	1,275,421.87	3,867,118.79	312,005.68	140,394.86	452,400.54	4,319,519.33
Philadelphia	3,255,432.92	1,173,432.94	4,428,865.86	205,961.08	92,497.97	298,459.05	4,727,324.91
Pittsburg	3,109,885.27	737,682.38	3,847,567.65				3,847,567.65
San Francisco	1,457,423.91	231,950.13	1,689,374.04	75,262.27	15,446.24	90,708.51	1,780,082.55
Topeka	7,295,628.75	1,401,288.76	8,696,917.51				8,696,917.51
Washington	4,596,762.99	687,071.73	5,283,834.72	431,503.71	97,539.94	529,043.65	5,812,878.37
Total	52,849,007.52	13,129,148.15	65,978,155.67	1,719,602.64	561,778.87	2,281,381.51	68,259,537.18

TABLE No. 7.—*Number and amount of first payments on each class of certificates made during fiscal year 1893, by pension agents, to each class of pensioners*

Class of cases.		Original.		Increase and additional.		Reissue.		Restoration and renewal.		Number and total amount of first payments during the year.	
		No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
Army, general law	Invalids	10,613	$3,532,622.79	18,382	$948,864.15	5,841	$1,829,848.64	1,010	$377,002.85	35,846	$6,688,338.43
	Nurses	255	13,034.02	.....	.....	.....	.....	.....	.....	255	13,034.02
	Widows, etc.	7,432	4,822,284.73	15	3,359.54	290	293,998.91	88	75,891.52	7,825	5,195,534.70
Navy, general law	Invalids	173	47,430.14	213	12,237.01	54	9,955.70	14	2,773.36	454	72,396.21
	Widows, etc.	101	95,520.94	1	.67	6	4,248.26	.....	.....	108	99,769.87
Army, act June 27, 1890	Invalids	67,131	10,507,350.04	28,279	3,093,408.91	884	59,356.51	938	179,389.86	97,232	13,839,505.32
	Widows, etc.	34,878	6,825,339.38	11	955.00	41	5,076.35	101	18,307.80	35,031	6,849,678.53
Navy, act June 27, 1890	Invalids	2,388	474,020.02	288	22,127.08	22	1,126.88	8	1,102.16	2,706	498,376.14
	Widows, etc.	1,246	190,755.95	.....	.....	2	.....	.....	.....	1,248	190,755.95
War of 1812	Survivors	2	1,499.47	2	92.40	.....	.....	.....	.....	4	1,591.87
	Widows	18	11,843.75	1	56.80	2	72.00	.....	.....	21	11,972.55
War with Mexico	Survivors	218	61,495.70	6	119.60	5	410.40	1	529.33	230	62,555.03
	Widows	425	68,539.19	1	63.60	.....	.....	1	408.00	427	69,010.79
Indian wars, 1832 to 1842	Survivors	2,190	112,854.36	.....	.....	1	157.20	.....	.....	2,191	113,011.56
	Widows	916	51,018.41	.....	.....	.....	.....	.....	.....	916	51,018.41
Total		127,986	26,815,608.89	47,199	4,081,284.76	7,148	2,204,250.85	2,161	655,404.88	184,494	33,756,549.38

Amount paid as fees to attorneys	$1,872,178.53
Average value of all original payments during year	209.52
Average value of original payments in act June 27, 1890, cases	170.36
Average value of original payments in general-law cases	458.21

TABLE No. 8.—*Number of cases of each class on hand at the pension agencies and unpaid June 30, 1893, with the amount of the first payment therein.*

Class of cases.		Original.		Increase and additional.		Reissue.		Restoration and renewal.		Total number of certificates unpaid and the amount due thereon June 30, 1893.	
		No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
Army, general law	Invalids	378	$110,931.04	573	$28,874.62	223	$51,704.77	61	$21,426.83	1,235	$212,937.26
	Nurses	30	1,464.33	.....	.....	.....	.....	.....	.....	30	1,464.33
	Widows, etc	471	336,581.57	2	447.92	20	17,615.85	11	15,098.47	504	369,743.81
Navy, general law	Invalids	14	6,183.94	20	518.34	11	1,567.32	.....	.....	45	8,269.60
	Widows, etc	6	1,631.99	.....	.....	.....	.....	.....	.....	6	1,631.99
Army, act June 27, 1890	Invalids	842	155,936.31	221	26,986.29	46	3,605.89	22	5,697.15	1,131	192,225.64
	Widows, etc	2,000	415,902.31	2	327.54	7	63.17	8	2,059.80	2,017	418,352.82
Navy, act June 27, 1890	Invalids	54	11,082.27	2	642.00	8	.....	1	240.00	65	11,964.27
	Widows, etc	83	13,050.45	.....	.....	.....	.....	.....	.....	83	13,050.45
War of 1812	Survivors	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Widows	5	8,683.35	.....	.....	1	70.80	.....	.....	6	8,754.15
War with Mexico	Survivors	19	4,965.46	.....	.....	.....	.....	.....	.....	19	4,965.46
	Widows	39	10,085.02	.....	.....	.....	.....	.....	.....	39	10,085.02
Indian wars, 1832–1842	Survivors	357	26,759.41	.....	.....	.....	.....	.....	.....	357	26,759.41
	Widows	424	29,741.08	.....	.....	.....	.....	.....	.....	424	29,741.08
Total		4,722	1,132,998.53	820	57,796.71	316	74,627.80	103	44,522.25	5,961	1,309,945.29

Average value of all original payments due but not made June 30, 1893 ..... $240.19
Average value of first payments in original act June 27, 1890, cases, due but not made June 30, 1893 ..... 200.05
Average value of first payments in original general-law cases, due but not made June 30, 1893 ..... 508.11

TABLE NO. 9.—*Statement of amounts paid for pensions to the survivors of the war of 1812 and to the widows of those who served in that war, since 1871, and to the survivors of the war with Mexico and to the widows of those who served in that war, since 1887.*

Fiscal year of—	War of 1812.			War with Mexico.		
	Survivors.	Widows.	Total disbursements.	Survivors.	Widows.	Total disbursements.
1871 (From Feb. 14, 1871)	$2.555.05	$511.00	$3,066.05			
1872	1,977,415.84	335,993.63	2,313,409.47			
1873	2,078,606.98	689,303.59	2,767,910.57			
1874	1,588,832.95	616,026.40	2,204,849.35			
1875	1,355,599.86	533,000.21	1,888,600.07			
1876	1,089,037.18	445,772.95	1,534,810.13			
1877	934,657.82	361,548.91	1,296,206.73			
1878 (from March 9, 1878.)	768,918.47	294,572.05	1,063,490.52			
1879	1,014,525.66	2,192,699.54	3,207,225.20			
1880	790,710.39	2,658,058.14	3,448,768.53			
1881	621,612.80	2,381,800.95	3,003,413.75			
1882	478,274.85	2,024,207.63	2,502,482.48			
1883	357,334.81	1,882,542.41	2,239,877.22			
1884	278,888.85	1,686,302.09	1,965,190,94			
1885	207,782.80	1,518,202.39	1,725,985.19			
1886	144,389.59	1,458,896.44	1,603,286.03			
1887	105,837.01	1,765,582.36	1,871,419.37	$53,148.68	$2,458.08	$55,606.76
1888	73,659.48	1,596,604.96	1,670.264.44	1,861,756.07	583,056.28	2,444,812.35
1889	52,800.27	1,397,487.09	1,450,287.36	1,796,899.30	693,572.45	2,490,471.75
1890	38,847.09	1,263,239.37	1,302,086.46	1,728,027.54	695,054.90	2,423,082.44
1891	22,504.64	1,040,284.41	1,062.789.05	1,622,114.75	695,314.52	2,317,429.27
1892	11,908.93	827,080.53	838,989.46	1,425,258.18	686,733.57	2,111,991.75
1893	10,494.27	721,060.32	731,554.59	1,396,392.38	736,173.41	2,132,565.79
Total	14,005,195.59	27,690,767.37	41,695,962.96	9,883,596.90	4,092,363.21	13,975,960.11

Amount disbursed to Indian war pensioners (Act July 27, 1892):

Survivors	$158,076.26
Widows	66,434.05
Total	224,510.31

TABLE No. 10.—*A classified statement of the number of pensioners on the rolls of each agency compared with the number on the rolls June 30, 1892.*

Location of Agency.	General law.					Act of June 27, 1890.				War of 1812.		War with Mexico.		Indian wars 1832–1842.		Number of pensioners on the roll June 30, 1893.	Number of pensioners on the roll June 30, 1892.
	Army.			Navy.		Army.		Navy.									
	Invalids.	Nurses.	Widows, etc.	Invalids.	Widows, etc.	Invalids.	Widows, etc.	Invalids.	Widows, etc.	Survivors.	Widows.	Survivors.	Widows.	Survivors.	Widows.		
Topeka	31,959	21	6,867	.....	.....	51,663	7,875	.....	.....	3	220	1,771	824	149	71	101,423	91,560
Columbus	39,634	33	11,990	.....	.....	38,304	7,483	.....	.....	6	407	464	269	9	5	98,604	90,078
Chicago	31,263	21	8,337	991	355	23,208	4,786	2,540	569	3	222	898	554	130	110	73,987	68,285
Indianapolis	40,232	13	8,870	.....	.....	16,206	3,478	.....	.....	1	239	613	341	22	18	70,033	66,755
Washington	20,348	31	4,842	933	533	31,513	4,245	2,942	621	3	599	1,252	505	30	25	68,422	61,440
Philadelphia	15,799	12	7,274	705	401	23,390	7,417	1,587	705	.....	234	326	265	14	5	58,134	50,923
Des Moines	25,975	20	4,449	.....	.....	22,402	2,923	.....	.....	3	113	515	202	36	16	56,654	52,638
Boston	17,948	32	8,981	1,314	785	15,541	7,174	2,371	1,059	7	495	188	126	8	7	56,036	49,582
Knoxville	9,882	13	4,889	.....	.....	24,535	4,802	.....	.....	9	1,042	4,183	2,681	2,001	1,030	55,067	46,362
New York	14,557	24	7,275	686	476	17,002	8,449	2,208	1,059	11	360	429	272	9	9	52,826	45,255
Milwaukee	23,226	10	4,913	.....	.....	17,291	2,514	.....	.....	3	81	285	113	31	11	48,478	44,944
Buffalo	20,640	10	7,404	.....	.....	15,269	3,688	.....	.....	13	417	122	62	11	1	47,637	43,756
Pittsburg	14,973	4	5,053	.....	.....	21,588	4,080	.....	.....	3	141	159	105	2	2	46,110	41,633
Detroit	20,560	11	4,972	.....	.....	16,594	2,688	.....	.....	7	152	181	98	11	3	45,277	41,569
Louisville	8,857	6	3,753	.....	.....	13,278	2,686	.....	.....	2	210	673	406	20	10	29,901	27,861
Concord	10,619	3	3,736	.....	.....	4,759	1,239	.....	.....	3	182	52	21	3	1	20,618	19,672
San Francisco	4,274	16	789	153	33	9,101	1,210	471	101	1	34	1,996	494	56	12	18,741	16,458
Augusta	9,912	4	3,245	.....	.....	3,440	1,101	.....	.....	8	277	42	31	2	2	18,064	17,297
Total number of pensioners	360,658	284	107,639	4,782	2,583	365,084	77,838	12,119	4,114	86	5,425	14,149	7,369	2,544	1,338	966,012	876,068
Increase during year	.....	284	.....	.....	.....	81,350	33,142	2,785	1,197	.....	.....	.....	87	2,544	1,338	89,944	.....
Decrease during year	29,090	.....	1,041	264	17	.....	.....	.....	.....	79	1,226	1,066	.....	.....	.....	.....	.....

TABLE No. 11.—*List of pension agencies, with location, geographical limits, and names of pension agents, showing the balance of funds in the hands of each agent June 30, 1893.*

Location.		Name of agent.	Amount.	Geographical limits.
City.	State.			
Augusta	Maine	Joseph A. Clark	$24,622.42	The State of Maine: Navy pensioners in this district are paid in Boston, Mass.
Boston	Massachusetts	William H. Osborne	178,839.22	The States of Connecticut, Massachusetts, and Rhode Island, and all Navy pensioners residing in this and the Augusta and Concord districts.
Buffalo	New York	Charles A. Orr	203,532.36	The counties in the State of New York not in the New York City district: All Navy pensioners in the State are paid at New York City.
Chicago	Illinois	Isaac Clements	180,459.78	The State of Illinois, and all Navy pensioners residing in this and the Columbus, Des Moines, Detroit, Indianapolis, Louisville, Milwaukee, and Topeka districts.
Columbus	Ohio	John G. Mitchell	230,994.33	The State of Ohio: Navy pensioners in this district are paid at Chicago.
Concord	New Hampshire	Thomas P. Cheney	65,212.09	The States of New Hampshire and Vermont: Navy pensioners in this district are paid at Boston.
Des Moines	Iowa	Stephen A. Marine	157,367.08	The States of Iowa and Nebraska: Navy pensioners in this district are paid at Chicago.
Detroit	Michigan	Edw. H. Harvey	43,069.28	The State of Michigan: Navy pensioners in this district are paid at Chicago.
Indianapolis	Indiana	Nicholas Ensley	20,631.59	The State of Indiana: Navy pensioners in this district are paid at Chicago.
Knoxville	Tennessee	William Rule	.....	The States of Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, and Texas: Navy pensioners in this district are paid at Washington, D. C.
Louisville	Kentucky	C. J. Walton	134,021.92	The State of Kentucky: Navy pensioners in this district are paid at Chicago.
Milwaukee	Wisconsin.	Levi E. Pond	158,133.11	The States of Minnesota, North Dakota, South Dakota, and Wisconsin: Navy pensioners in this district are paid at Chicago.
New York	New York	F. C. Loveland	91,442.83	The counties in the State of New York of Albany, Clinton, Columbia, Delaware, Dutchess, Essex, Greene, Kings, Queens, New York, Orange, Putnam, Richmond, Rensselaer, Rockland, Saratoga, Schenectady, Sullivan, Suffolk, Ulster, Warren, Washington, and Westchester: All Navy pensioners in the State of New York, and all pensioners residing in the counties of the State of New Jersey, of Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Passaic, Somerset, Sussex, Union, and Warren.
Philadelphia	Pennsylvania	William H. Shelmire	62,221.17	The counties in the State of Pennsylvania of Berks, Bradford, Bucks, Carbon, Chester, Columbia, Dauphin, Delaware, Lackawanna, Lancaster, Lebanon, Lehigh, Luzerne, Monroe, Montgomery, Montour, Northampton, Northumberland, Philadelphia, Pike, Schuylkill, Sullivan, Susquehanna, Wayne, Wyoming, and York: All Navy pensioners in the State of Pennsylvania, and all pensioners residing in the counties in the State of New Jersey of Atlantic, Burlington, Camden, Cape May, Cumberland, Glouecster, Mercer, Ocean, and Salem.
Pittsburg	Pennsylvania	H. H. Bengough	153,048.08	The counties in the State of Pennsylvania not in the Philadelphia district: All Navy pensioners in the State are paid at Philadelphia.
San Francisco	California	John C. Currier	58,419.12	The States of California, Idaho, Montana, Nevada, Oregon, Washington, and Wyoming, the Territories of Alaska, Arizona, and Utah, including the Navy pensioners.
Topeka	Kansas	Bernard Kelly	90,755.24	The States of Colorado, Kansas, and Missouri, the Territories of New Mexico, Oklahoma, and the Indian Territory: Navy pensioners in this district are paid at Chicago.
Washington	District of Columbia.	S. L. Willson	206,887.71	The States of Delaware, Maryland, Virginia, and West Virginia, and the District of Columbia: The inmates of the branches of the National Soldiers' Home, and pensioners residing in foreign countries, and all Navy pensioners in this and the Knoxville district.
			2,059,657.33	

TABLE No. 12.—*Number of pension claims filed and allowed each year since July, 1861, amount paid on account of*

Fiscal year ending June 30—	Army.		Navy.		Army and Navy.		War of 1812.			
	Applications filed.		Applications filed.		Claims allowed.		Applications filed.		Claims allowed.	
	Invalids.	Widows, etc.	Invalids.	Widows, etc.	Invalids.	Widows, etc.	Survivors.	Widows.	Survivors.	Widows.
1861	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1862	1,362	1,000	60	65	413	49	.....	.....	.....	.....
1863	26,380	22,377	290	285	4,121	3,763	.....	.....	.....	.....
1864	20,263	32,627	385	324	17,041	22,446	.....	.....	.....	.....
1865	27,299	44,464	455	466	15,212	24,959	.....	.....	.....	.....
1866	35,799	28,732	350	375	22,883	27,294	.....	.....	.....	.....
1867	15,905	20,265	250	333	16,589	19,893	.....	.....	.....	.....
1868	7,292	13,099	170	207	9,460	19,461	.....	.....	.....	.....
1869	11,035	14,496	290	245	7,292	15,904	.....	.....	.....	.....
1870	12,991	11,400	260	200	5,721	12,500	.....	.....	.....	.....
1871	8,837	8,985	190	142	7,934	8,399	20,741	5,074	198	31
1872	8,857	6,755	240	178	6,468	7,244	6,546	3,815	17,504	3,117
1873	8,728	6,427	248	120	6,551	4,073	1,481	1,299	3,186	2,242
1874	9,302	5,603	228	151	5,937	3,152	737	713	563	910
1875	11,926	5,294	310	178	5,760	4,736	425	571	240	416
1876	17,030	5,264	344	130	5,360	4,376	319	436	73	168
1877	16,532	5,269	271	97	7,282	3,861	198	348	57	126
1878	18,812	6,661	300	131	7,414	3,550	2,786	15,897	817	181
1879	36,835	9,767	599	215	7,242	3,379	811	8,891	2,548	18,177
1880	110,673	25,602	1,361	559	10,176	4,455	295	2,976	284	4,630
1881	18,455	10,527	515	225	21,394	3,920	109	1,285	115	1,965
1882	29,004	10,349	472	211	22,946	3,999	85	818	26	693
1883	35,039	11,878	777	251	32,014	5,303	61	770	23	822
1884	28,962	11,289	671	244	27,414	6,366	52	567	24	388
1885	27,959	11,557	725	277	27,580	7,743	27	373	18	426
1886	35,202	13,328	862	265	31,937	8,610	24	304	5	305
1887	36,484	15,759	836	338	35,283	11,217	17	313	8	231
1888	47,505	18,444	1,251	427	35,843	10,816	23	223	2	251
1889	52,152	23,597	1,312	579	36,830	11,924	14	183	8	181
1890	71,570	28,365	2,162	788	50,395	14,612	166	16	4	108
1891	20,519	17,521	1,404	590	41,381	11,914	11	140	4	79
1892	17,432	15,765	742	404	17,876	7,287	11	71	2	46
1893	9,213	12,000	654	358	10,232	7,295	.....	49	2	16
Total...	835,354	474,466	18,984	9,358	559,981	304,500	34,939	45,132	25,711	35,409

In the total number of applications filed in 1893 are included 65,002 invalids and 20,914 widows, etc., nurses. In the number of claims allowed in 1893 are included 62,291 invalids and 36,917 widows, etc., In the number of pensioners on the roll, under the heads of "invalids" and "widows, etc.," are respect-

and the number of pensioners on the rolls at the close of each year, together with the annual pensions since July 1, 1860.

War with Mexico.				Total number of applications filed.	Total number of claims allowed.	Number of pensioners on the roll.			Disbursements.
Applications filed.		Claims allowed.				Invalids.	Widows, etc.	Total.	
Survivors.	Widows.	Survivors.	Widows.						
.....	.....	.....	.....	.....	.....	4,337	4,299	8,636	$1,072,461.55
.....	.....	.....	.....	2,487	462	4,341	3,818	8,159	790,384.76
.....	.....	.....	.....	49,332	7,884	7,821	6,970	14,791	1,025,139.91
.....	.....	.....	.....	53,599	39,487	23,479	27,656	51,135	4,504,616.92
.....	.....	.....	.....	72,684	40,171	35,880	50,106	85,986	8,525,153.11
.....	.....	.....	.....	65,256	50,177	55,652	71,070	126,722	13,459,996.43
.....	.....	.....	.....	36,753	36,482	69,565	83,618	153,183	18,619,956.46
.....	.....	.....	.....	20,768	28,921	75,957	93,686	169,643	24,010,981.99
.....	.....	.....	.....	26,066	23,196	82,859	105,104	187,963	28,422,884.08
.....	.....	.....	.....	24,851	18,221	87,521	111,165	198,686	27,780,811.81
.....	.....	.....	.....	43,969	16,562	93,394	114,101	207,495	33,077,383.63
.....	.....	.....	.....	26,391	34,333	113,954	118,275	232,299	30,169,341.00
.....	.....	.....	.....	18.303	16,052	119,500	118,911	238,411	29,185,289.62
.....	.....	.....	.....	16,734	10,462	121,628	114,613	236,241	30,593,749.56
.....	.....	.....	.....	18,704	11,152	122,989	111,832	234,821	29,683,116.63
.....	.....	.....	.....	23,523	9,977	124,239	107,898	232,137	28,351,599.69
.....	.....	.....	.....	22,715	11,326	128,723	103,381	232,104	28,580,157.04
.....	.....	.....	.....	44,587	11,962	131,649	92,349	223,998	26,844,415.18
.....	.....	.....	.....	57,118	31,346	138,615	104,140	242,755	33,780,526.19
.....	.....	.....	.....	141,466	19,545	145,410	105,392	250,802	57,240,540.14
.....	.....	.....	.....	31,116	27,394	164,110	104,720	268,830	50,626,538.51
.....	.....	.....	.....	40,939	27,664	182,633	103,064	285,697	54,296,280.54
.....	.....	.....	.....	48,776	38,162	206,042	97,616	303,658	60,431,972.85
.....	.....	.....	.....	41,785	34,192	225,470	97,286	323,756	57,273,536.74
.....	.....	.....	.....	40,918	35,767	247,146	97,979	345,125	65,693,706.72
.....	.....	.....	.....	49,895	40,857	270,346	95,437	365,783	64,584,270.45
14,735	3,983	7,552	903	72,465	55,194	306,298	99,709	406,007	74,815,486.85
5,045	2,808	9,048	4,201	75,726	60,252	343,701	108,856	452,557	79,646,146.37
2,032	1,301	1,722	1,206	81,220	51,921	373,699	116,026	489,725	89,131,968.44
1,009	968	794	678	105,044	66,637	415,654	122,290	537,944	106,493,890.19
706	875	336	385	363,799	156,486	536,821	139,339	676,160	118,548,959.71
395	759	416	550	198,345	224,047	703,242	172,826	876,068	141,086,948.84
428	794	205	440	119,361	121,630	759,706	206,306	966,012	158,155,342.51
24,350	11,488	20,073	8,363	2,034,695	1,357,921	.....	.....	.....	1,576,503,544.42

under the act of June 27, 1890; 4,505 survivors and 4,514 widows of the Indian wars, and 930 Army under the act of June 27, 1890; 2,599 survivors and 1,347 widows of the Indian wars, and 286 Army nurses.
ively included all male and female pensioners of every class.

TABLE No. 13.—*Army invalid claims under the general law allowed each year since July and allowed in the report years, giving also the whole number filed each*

Years in which claims were filed.	The several years in which the claims were allowed and the number allowed each year.																
	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.
1862..	305	258	131	27	19	20	12	11	12	20	6	6	16	4	5	7	4
1863..	.....	3,657	9,331	1,138	517	395	235	185	143	293	156	110	129	159	121	139	147
1864..	.....	.....	7,303	3,459	844	562	253	166	114	239	139	96	107	101	84	126	109
1865..	.....	.....	.....	10,045	7,819	1,863	685	417	223	382	198	132	100	92	96	113	122
1866..	.....	.....	.....	.....	12,724	9,292	2,511	1,150	529	732	440	251	211	185	145	187	202
1867..	.....	.....	.....	.....	.....	3,586	3,626	1,132	525	724	349	356	149	153	88	154	139
1868..	.....	.....	.....	.....	.....	.....	1,641	1,692	421	502	218	196	172	89	56	62	59
1869..	.....	.....	.....	.....	.....	.....	.....	2,238	2,208	1,284	493	300	182	142	124	97	102
1870..	.....	.....	.....	.....	.....	.....	.....	.....	1,040	3,094	1,639	799	441	273	167	197	132
1871..	.....	.....	.....	.....	.....	.....	.....	.....	.....	342	1,946	1,055	438	348	214	149	125
1872..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	434	1,638	1,018	371	278	276	214
1873..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,322	1,762	674	342	461	253
1874..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	794	1,869	606	593	243
1875..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	937	2,243	1,169	483
1876..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	624	2,595	1,844
1877..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	777	2,217
1878..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	908
1879..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1880..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1881..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1882..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1883..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1884..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1885..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1886..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1887..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1888..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1889..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	.....
1890..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1891..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1892..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1893..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	305	3,915	16,765	14,669	21,923	15,718	8,963	6,991	5,215	7,612	6,018	6,261	5,519	5,397	5,193	7,102	7,303

NOTE.—The total number, 10,029, of claims allowed in 1893 excludes 33 old war invalids which are included in the number of army invalids as reported in Table No. 1.

1, 1861, showing in each year's allowance the number of those which were filed each year year and the percentage of the number allowed out of those filed each year.

The several years in which the claims were allowed and the number allowed each year.															Total.
1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	
5	24	78	38	18	9	16	15	17	9	10	7	16	5	1	1,131
135	281	415	392	384	263	280	269	248	230	191	195	150	69	60	20,417
100	228	395	328	305	240	264	220	226	194	142	138	121	49	43	16,695
92	172	335	234	284	189	204	168	160	110	125	121	85	32	27	24,625
158	257	477	368	335	255	236	219	208	177	136	130	125	56	43	31,739
104	190	339	281	262	202	263	187	184	131	107	97	77	58	21	13,464
49	109	177	99	124	93	190	80	92	61	52	51	31	24	11	6,351
54	143	312	267	208	180	282	141	141	115	92	90	69	43	16	9,323
121	220	451	379	319	243	363	233	234	164	138	115	123	50	21	10,956
100	228	368	293	243	218	241	211	165	125	116	116	78	35	19	7,173
153	251	404	328	288	231	314	226	193	144	116	110	81	39	16	7,123
123	257	454	330	274	209	221	197	186	161	103	136	93	31	19	7,608
188	328	497	384	312	213	385	254	213	169	117	128	110	33	19	7,455
273	455	756	559	478	349	461	323	277	239	158	176	137	52	22	9,547
608	758	1,219	905	773	578	630	570	565	413	316	338	267	77	38	13,118
1,464	1,063	1,570	1,050	1,006	709	740	698	618	444	331	340	284	79	29	13,419
2,568	1,806	2,385	1,400	986	888	879	816	773	559	413	475	326	111	47	15,340
778	2,685	7,767	4,865	4,116	2,298	2,045	1,819	1,618	1,065	836	870	605	205	79	31,651
.....	263	2,358	9,825	17,626	12,277	9,706	9,529	7,880	5,613	3,895	4,159	2,814	999	472	87,416
.....	.....	155	157	1,350	1,651	1,499	1,555	1,463	1,109	909	1,030	799	259	102	12,038
.....	.....	.....	133	1,485	2,326	2,245	2,667	2,526	2,038	1,512	1,709	1,228	427	200	18,496
.....	.....	.....	.....	582	2,579	2,517	3,279	3,188	2,720	2,090	2,303	1,695	618	283	21,854
.....	.....	.....	.....	.....	917	2,434	3,092	2,736	2,363	1,834	1,929	1,380	521	248	17,454
.....	.....	.....	.....	.....	.....	810	3,901	3,443	2,696	2,038	2,182	1,429	503	226	17,228
.....	.....	.....	.....	.....	.....	.....	883	5,842	5,423	3,849	3,714	2,163	698	380	22,952
.....	.....	.....	.....	.....	.....	.....	.....	1,506	6,383	5,317	4,967	2,826	948	483	22,430
.....	.....	.....	.....	.....	.....	.....	.....	.....	2,234	9,499	9,240	4,476	1,626	789	27,864
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,557	12,180	7,784	2,555	1,512	25,588
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,407	10,375	5,232	2,886	20,900
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	706	1,804	1,236	3,746
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	207	612	819
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	69	69
7,073	9,718	20,912	22,615	31,758	27,117	27,225	31,552	34,702	35,089	35,999	49,453	40,453	17,425	10,029	545,989

Years in which claims were filed.	Number of invalid claims filed each year.	Per cent of claims allowed of each year's filing.	Years in which claims were filed.	Number of invalid claims filed each year.	Per cent of claims allowed of each year's filing.
1862	1,362	83.0	1879	36,835	86.4
1863	26,380	77.4	1880	110,673	79.0
1864	20,263	82.4	1881	18,455	65.2
1865	27,299	90.2	1882	29,004	63.7
1866	35,799	88.6	1883	35,039	62.3
1867	15,905	84.6	1884	28,962	60.2
1868	7,292	87.1	1885	27,959	61.6
1869	11,035	84.5	1886	35,202	65.2
1870	12,991	84.3	1887	36,204	61.9
1871	8,837	81.2	1888	47,349	58.8
1872	8,857	80.4	1889	51,919	49.4
1873	8,728	87.2	1890	71,318	27.9
1874	9,302	80.1	1891	20,199	13.6
1875	11,926	80.0	1892	17,254	4.7
1876	17,030	77.0	1893	9,120	0.075
1877	16,532	81.2			
1878	18,812	81.5	Total	833,342	.....

TABLE NO. 14.—*Statement showing the different monthly rates of pension and the number pensioned at each rate of the Army and Navy invalids, of the Army and Navy widows, minors, and dependents (war of 1861) on the roll× under the general law, June 30, 1893, and a similar classification of those on the rolls at the same date under the act of June 27, 1890, and as survivors and widows of the war of 1812 and with Mexico.*

Rate.	Invalids.			Widows, etc.			Rate.	Invalids.			Widows, etc.		
	Army.	Navy.	Total.	Army.	Navy.	Total.		Army.	Navy.	Total.	Army.	Navy.	Total.
$1.00	9	1	10	.....	.....	.....	$17.00	26,971	272	27,243	2,471	5	2,476
2.00	10,066	108	10,174	.....	.....	.....	17.25	1	2	3	.....	.....	.....
2.25	1	.....	1	.....	.....	.....	17.50	24	10	34	.....	.....	.....
2.50	1	.....	1	.....	.....	.....	17.75	2	.....	2	.....	.....	.....
2.66⅔	3	.....	3	.....	.....	.....	18.00	1,679	30	1,709	60	1	61
3.00	574	19	593	.....	.....	.....	18.25	.....	5	5	.....	.....	.....
3.12½	1	.....	1	.....	.....	.....	18.50	15	2	17	.....	.....	.....
3.25	.....	1	1	.....	.....	.....	18.75	101	3	104	.....	.....	.....
3.75	106	4	110	.....	.....	.....	19.00	13	1	14	.....	.....	.....
4.00	37,486	472	37,958	.....	.....	.....	19.25	6	.....	6	.....	.....	.....
4.25	148	.....	148	.....	.....	.....	19.50	.....	3	3	.....	.....	.....
5.00	518	37	555	.....	.....	.....	20.00	5,239	135	5,374	2,611	156	2,767
5.25	1	.....	1	.....	.....	.....	20.25	1	.....	1	.....	.....	.....
5.33⅓	22	1	23	.....	.....	.....	20.50	1	1	2	.....	.....	.....
5.66⅔	4	.....	4	.....	.....	.....	20.75	2	2	4	.....	.....	.....
5.75	9	.....	9	.....	.....	.....	21.00	2	1	3	.....	.....	.....
6.00	36,364	353	36,717	.....	.....	.....	21.25	4	.....	4	.....	.....	.....
6.25	42	1	43	.....	.....	.....	21.50	.....	1	1	.....	.....	.....
6.37½	3	.....	3	.....	.....	.....	22.00	3,177	74	3,251	.....	.....	.....
6.75	1	.....	1	.....	.....	.....	22.50	105	8	113	.....	.....	.....
7.00	65	.....	65	.....	.....	.....	23.25	2	.....	2	.....	.....	.....
7.25	.....	1	1	.....	.....	.....	23.75	2	.....	2	.....	.....	.....
7.50	349	4	353	.....	.....	.....	24.00	21,889	292	22,181	2	.....	2
7.75	10	1	11	.....	.....	.....	24.50	1	1	2	.....	.....	.....
8.00	62,386	808	63,194	584	12	596	25.00	2,999	91	3,090	724	124	848
8.12½	1	.....	1	.....	.....	.....	25.25	1	.....	1	.....	.....	.....
8.25	12	.....	12	.....	.....	.....	25.75	.....	3	3	.....	.....	.....
8.50	462	.....	462	.....	.....	.....	26.25	6	.....	6	.....	.....	.....
8.62½	1	.....	1	.....	.....	.....	26.75	1	2	3	.....	.....	.....
8.75	5	.....	5	.....	.....	.....	27.00	978	28	1,006	.....	.....	.....
9.00	469	3	472	.....	.....	.....	27.50	8	.....	8	.....	.....	.....
9.25	13	.....	13	.....	.....	.....	28.00	1	.....	1	.....	.....	.....
9.50	10	7	17	.....	.....	.....	28.75	1	.....	1	.....	.....	.....
9.75	3	4	7	.....	.....	.....	29.50	.....	1	1	.....	.....	.....
10.00	31,189	418	31,607	5	1	6	30.00	15,608	247	15,855	695	213	908
10.20	1	.....	1	.....	.....	.....	30.75	.....	1	1	.....	.....	.....
10.25	6	2	8	.....	.....	.....	31.00	3	1	4	.....	.....	.....
10.50	10	7	17	.....	.....	.....	31.25	32	.....	32	.....	.....	.....
10.62½	1	.....	1	.....	.....	.....	32.00	.....	3	3	1	.....	1
10.66⅔	1	.....	1	.....	.....	.....	32.50	.....	6	6	.....	.....	.....
10.75	1	11	12	.....	.....	.....	33.00	1	2	3	.....	.....	.....
11.00	65	4	69	.....	.....	.....	33.50	.....	2	2	.....	.....	.....
11.25	169	9	178	.....	.....	.....	35.00	2	4	6	.....	.....	.....
11.33⅓	1	.....	1	.....	.....	.....	35.50	.....	2	2	2	.....	2
11.50	16	4	20	.....	.....	.....	36.00	3,076	38	3,114	.....	.....	.....
11.75	8	3	11	.....	.....	.....	37.00	.....	1	1	.....	.....	.....
12.00	50,297	563	50,860	98,920	1,880	100,800	37.50	1	.....	1	1	.....	1
12.12½	1	.....	1	.....	.....	.....	38.50	.....	1	1	.....	.....	.....
12.25	14	.....	14	.....	.....	.....	40.00	53	1	54	14	4	18
12.50	131	26	157	.....	.....	.....	40.25	.....	1	1	.....	.....	.....
12.75	307	1	308	.....	.....	.....	45.00	2,503	23	2,526	2	.....	2
13.00	598	8	606	.....	.....	.....	48.00	2	.....	2	.....	.....	.....
13.25	4	8	12	.....	.....	.....	49.00	2	.....	2	.....	.....	.....
13.33⅓	4	.....	4	.....	.....	.....	50.00	395	4	399	61	63	124
13.50	22	6	28	.....	.....	.....	51.00	.....	.....	.....	1	.....	1
13.60	1	.....	1	.....	.....	.....	53.00	1	.....	1	.....	.....	.....
13.75	7	1	8	.....	.....	.....	55.00	1	.....	1	.....	.....	.....
14.00	20,634	193	20,827	3	.....	3	57.00	1	.....	1	.....	.....	.....
14.25	17	3	20	.....	.....	.....	60.00	11	.....	11	.....	1	1
14.50	4	3	7	.....	.....	.....	72.00	3,085	98	3,183	.....	.....	.....
14.75	3	.....	3	.....	.....	.....	75.00	1	.....	1	5	.....	5
15.00	2,844	95	2,939	1,452	119	1,571	90.00	2	.....	2	.....	.....	.....
15.25	.....	1	1	.....	.....	.....	100.00	27	3	30	15	2	17
15.50	3	2	5	.....	.....	.....	166.66⅔	.....	.....	.....	5	1	6
15.75	.....	5	5	.....	.....	.....	208.33⅓	.....	.....	.....	1	.....	1
16.00	17,076	173	17,249	1	1	2	416.66⅔	.....	.....	.....	2	.....	2
16.25	8	1	9	.....	.....	.....							
16.50	14	4	18	.....	.....	.....	Total .	360,658	4,782	365,440	107,639	2,583	110,222
16.75	17	.....	17	.....	.....	.....							

TABLE NO. 14.—*Statement showing the different monthly rates of pension and the number pensioned at each rate, etc.*—Continued.

ACT OF JUNE 27, 1890.

Rate.	Invalids.			Widows, etc.		
	Army.	Navy.	Total.	Army.	Navy.	Total.
$6.00	69,818	2,682	72,500	.....	.....	.....
7.00	5	.....	5	.....	.....	.....
8.00	79,464	2,668	82,132	68,526	3,956	72,482
10.00	17,067	589	17,656	.....	.....	.....
11.00	1	.....	1	.....	.....	.....
12.00	198,729	6,180	204,909	9,312	158	9,470
Total	365,084	12,119	377,203	77,838	4,114	81,952

Rate.	War of 1812.			War with Mexico.		
	Survivors.	Widows.	Total.	Survivors.	Widows.	Total.
$8.00	80	.....	80	14,093	7,362	21,455
12.00	.....	5,410	5,410	4	2	6
15.00	.....	.....	.....	2	.....	2
16.00	.....	1	1	2	.....	2
18.00	.....	1	1	.....	.....	.....
20.00	1	4	5	23	2	25
24.00	.....	.....	.....	2	.....	2
25.00	1	7	8	11	1	12
30.00	3	2	5	7	2	9
40.00	1	.....	1	1	.....	1
50.00	.....	.....	.....	1	.....	1
72.00	.....	.....	.....	3	.....	3
Total	86	5,425	5,511	14,149	7,369	21,518

TABLE No. 15.—*The number of pensioners in each State and Territory of the United States and in each foreign country on the rolls June 30, 1893, and the amount paid for pensions during the fiscal year 1893 in each State and Territory and each foreign country.*

United States.	No.	Amount.	Foreign countries.	No.	Amount.
Alabama	3,487	$456,102.15	Argentine Republic	3	$393.00
Alaska Territory	21	2,995.33	Australia	26	4,471.80
Arizona Territory	503	84,072.55	Austria-Hungary	19	3,594.00
Arkansas	9,794	1,523,308.58	Bahama	1	72.00
California	12,523	2,080,684.12	Belgium	8	2,056.53
Colorado	6,001	924,354.14	Bermuda	3	385.00
Connecticut	11,615	1,340,354.07	Bolivia	1	96.00
Delaware	2,690	458,058.62	Brazil	2	132.00
District of Columbia	8,665	1,713,739.97	British Columbia	37	6,790.03
Florida	2,468	376,496.07	Bulgaria	2	540.00
Georgia	3,017	365,573.01	Canada	2,002	345,088.92
Idaho	859	132,714.48	Central America	7	674.94
Illinois	68,718	11,019,932.98	Chile	6	794.53
Indiana	68,896	11,703,434.01	China	6	1,210.40
Indian Territory	2,341	312,246.12	Comoro Islands	1	54.67
Iowa	38,100	6,175,811.71	Corea	1	360.00
Kansas	43,353	7,103,003.74	Cuba	2	240.00
Kentucky	30,055	4,890,817.13	Denmark	20	3,411.93
Louisiana	4,315	670,219.86	Fiji Islands	1	96.00
Maine	20,370	3,433,172.33	France	55	10,580.07
Maryland	13,113	2,084,875.19	Germany	590	98,650.33
Massachusetts	40,305	6,881,243.00	Great Britain	740	126,990.48
Michigan	45,369	7,760,227.02	Greece	1	360.00
Minnesota	16,303	2,605,437.50	Guatemala	1	120.00
Mississippi	3,971	623,442.66	Hawaii	21	3,493.00
Missouri	53,439	8,846,521.92	Honduras	3	36.00
Montana	1,095	171,650.77	India	4	531.20
Nebraska	18,119	3,026,287.21	Italy	30	6,447.80
Nevada	235	36,609.28	Japan	4	924.12
New Hampshire	9,705	1,558,429.25	Liberia	3	216.00
New Jersey	20,507	3,280,172.94	Madeira	1	108.00
New Mexico Territory	1,099	187,029.29	Malta	2	252.00
New York	88,473	13,817,895.87	Mauritius	2	140.00
North Carolina	4,741	631,740.24	Mexico	57	11,058.00
North Dakota	1,514	226,432.82	Netherlands	13	2,229.33
Ohio	102,981	17,326,682.81	New Zealand	3	348.00
Oklahoma Territory	4,002	623,643.85	Nicaragua	2	339.20
Oregon	3,922	662,877.25	Norway	30	6,690.76
Pennsylvania	95,822	15,177,339.44	Peru	3	882.54
Rhode Island	4,221	468,801.38	Portugal	2	232.80
South Carolina	1,636	224,825.44	Roumania	1	240.00
South Dakota	5,070	820,874.61	Russia	3	564.60
Tennessee	16,343	2,922,002.57	Siam	1	271.20
Texas	7,471	1,025,377.80	St. Helena	1	179.60
Utah Territory	702	104,864.07	South African Republic	4	801.00
Vermont	10,068	1,706,065.90	Spain	7	1,371.73
Virginia	7,739	1,199,388.62	Sweden	32	5,839.80
Washington	4,683	706,434.16	Switzerland	83	14,905.33
West Virginia	13,296	2,130,009.72	Turkey	3	598.40
Wisconsin	27,612	4,378,353.50	West Indies	6	1,104.00
Wyoming	570	90,873.25			
Total	961,917	156,073,500.10	Total	3,956	666,967.04
			Addresses unknown	239	.....
			Grand total	966,012	156,740,467.14

TABLE No. 16.—*Report of certificates issued in the fiscal year ending June 30, 1893.*

Months.	Original.																Increase.	Additional, etc., act of June 27, 1890.	Reissue.	Restoration.	Under acts of—				Supplemental.	Duplicates.	Accrued.	Total.
	Army.		Navy.		Act of June 27, 1890.				War of 1812.		Old war.		Mexican war.		Indian war.						Aug. 4, 1886.	June 7, 1888 (arrears).	Mar. 4, 1890.	July 14, 1892.				
	Invalids.	Widows, etc.	Invalids.	Widows, etc.	Army invalids.	Army, widows, etc.	Navy invalids.	Navy, widows, etc.	Survivors.	Widows.	Invalids.	Widows.	Survivors.	Widows.	Survivors.	Widows.	Army nurses.											
1892.																												
July	1,260	434	5	7	10,575	2,258	137	111	...	1	1	...	5	26	.....	.....	....	2,116	2,817	487	89	2	....	2	....	32	69	715	21,149
August	910	597	12	9	5,851	2,872	220	123	...	5	1	...	3	17	.....	.....	....	1,774	4,139	643	110	1	1	6	....	29	11	712	18,046
September	598	549	21	6	4,251	2,180	141	57	1	....	13	8	33	52	.....	.....	....	1,496	3,244	497	113	...	....	1	....	45	89	654	14,049
October	959	798	12	7	5,746	3,547	437	77	...	2	8	2	5	23	.....	.....	3	1,636	5,753	783	128	2	1	3	9	44	99	702	20,786
November	1,022	751	24	17	6,946	3,785	341	62	...	1	2	1	27	65	3	.....	3	1,101	3,547	703	92	...	2	3	13	36	177	661	19,385
December	1,044	656	11	11	8,638	3,704	400	57	1	....	1	1	16	27	23	.....	31	1,388	4,299	614	95	1	....	1	13	31	132	793 *9	21,988 *9
1893.																												
January	826	495	9	4	6,818	2,450	162	94	...	1	2	2	15	62	664	90	5	1,233	3,063	512	72	3	2	....	14	25	100	499	17,222
February	752	623	20	5	3,771	3,142	492	133	...	1	2	1	22	41	634	94	18	1,145	1,771	424	49	2	1	1	5	31	67	826	14,073
March	782	620	16	8	4,657	3,145	210	77	...	1	...	2	22	31	535	351	31	1,499	2,688	587	105	...	....	1	17	55	73	851	16,364
April	806	712	24	15	1,591	3,657	268	298	...	1	2	3	37	54	432	361	88	1,702	1,521	953	100	...	....	....	17	83	146	1,173	14,044
May	593	522	7	4	229	2,841	8	71	...	3	...	...	14	23	161	248	52	1,221	634	629	82	2	....	....	36	63	151	1,148	8,742
June	477	419	9	5	383	2,066	19	110	...	....	1	1	6	19	147	203	55	539	217	363	48	...	1	....	14	27	116	1,086	6,331
	10,029	7,176	170	98	59,456	35,647	2,835	1,270	2	16	33	21	205	440	2,599	1,347	286	16,850	33,693	7,195	1,083	13	8	18	138	501	1,230	9,829	192,188

*Accrued, act March, 1889.

Under the head of "Additionals, etc., act of June 27, 1890," the following classes are included: Additional, 28,980; increase, 1,011; reissue, 1,804; renewal, 921; supplemental, 194; duplicate, 782.

TABLE No. 17.—*Detailed report of work completed in the Army and Navy survivors' division from July 1, 1892, to June 30, 1893, inclusive, showing number of names, with post-office addresses, supplied to the adjudicating divisions, the special examination division, and to claimants or their attorneys.*

	Total names.	Total cases.	Special names.
Eastern division	25,676	2,539	839
Middle division	29,712	2,853	1,098
Western division	42,877	4,019	1,499
Southern division	35,922	3,751	1,183
Old War and Navy division	8,405	1,405	1,711
Special examination division	3,716	407	244
Miscellaneous calls	91,441	14,394	13,867
Total	237,749	29,368	20,441

Total number of names, with post-office addresses, furnished in 29,368 cases	237,749
Addresses supplied to specified names	20,441
Circular list of officers and comrades	14,394
Letters and circular letters	1,640
Statistical cards written (July 1, 1892, to April 1, 1893)	188,777
Calls on Adjutant-General, U. S. Army	1,205
Calls on Surgeon-General, U. S. Army	392
Calls on Navy Department	456
Post-office addresses of surgeons furnished	4,728

TABLE No. 18.—*Report of the Mail Division for the fiscal year ending June 30, 1893.*

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
RECEIVED.													
Original invalid cases*	1,182	1,212	1,029	992	828	860	696	796	763	582	529	605	10,074
Original widows' cases*	1,164	1,326	1,115	1,053	1,108	1,144	991	1,115	1,137	1,058	936	995	13,142
Original 1812 cases*	4	3	4	2	8	3	2	6	3	6	2	2	45
Original bounty land cases*	19	27	33	38	40	58	48	57	38	48	43	34	483
Original Navy cases*	60	61	89	82	66	61	48	38	37	38	34	37	651
Original old war, Mexican, Indian, and nurses	94	1,667	2,909	1,712	1,058	702	3,454	4,192	2,370	1,191	827	615	20,791
Applications for increase	5,926	8,354	6,687	6,358	4,917	5,198	4,053	4,074	4,091	3,157	3,044	2,266	58,125
Communications from the Departments	2,985	2,690	2,638	2,839	2,709	3,463	2,538	3,168	2,835	3,290	3,047	3,216	35,418
Applications (act June 27, 1890)	13,261	14,478	11,713	10,637	10,383	9,814	7,848	8,194	7,797	6,509	5,332	4,078	110,044
Applications for accrued pension	733	856	780	688	716	898	785	883	779	676	662	689	9,145
Pieces of additional evidence	95,589	108,304	91,286	73,622	70,249	93,140	86,918	75,774	82,007	90,195	111,806	127,776	1,106,666
Fee agreements in duplicate	8,469	10,275	8,385	6,446	7,290	10,057	7,334	6,779	5,198	4,288	3,561	3,285	81,367
Applications for transfer	121	127	106	94	76	133	71	88	115	85	72	48	1,136
Applications for new certificate	174	207	195	176	154	254	192	255	217	212	181	119	2,336
Reports from Adjutant-General	15,652	9,988	8,798	13,484	12,100	13,410	8,519	10,849	9,323	14,475	10,982	12,110	139,690
Reports from Surgeon-General	3	3	.....	3	1	1	3	.....	.....	.....	.....	5	19
Miscellaneous letters (not inquiries)	16,117	14,459	12,364	11,541	11,855	14,702	12,570	15,979	15,473	18,519	19,147	21,969	184,695
Pension certificates returned by pension agents	5,325	4,538	4,215	9,252	2,756	4,378	6,275	3,674	2,869	3,005	1,999	4,047	52,333
Surgeons' certificates	25,953	20,640	18,995	25,901	25,333	24,567	18,842	17,898	18,699	16,177	16,669	14,746	244,420
Orders for medical examination returned	22,381	21,158	17,675	22,048	25,947	22,762	15,150	17,254	18,582	13,929	13,667	14,364	224,917
Accounts from examining surgeons	11,086	10,724	10,685	11,300	9,321	11,810	10,406	9,447	10,619	10,055	10,478	10,126	126,057
Reports and cases from special examiners	1,496	1,550	1,309	1,497	1,416	1,319	1,886	1,752	1,980	2,098	1,396	1,858	19,557
Reports from pension agents	140	156	101	132	119	106	122	136	123	126	158	149	1,568
Daily reports of special examiners	3,520	3,767	3,394	3,996	3,750	3,947	3,748	3,326	3,658	2,898	3,366	3,808	43,178
Credibility of witness circulars	4,498	3,677	2,618	3,168	3,106	4,851	3,559	5,214	4,529	6,611	6,969	7,906	56,706
Number of dead letters returned by Post-Office Department	3,874	3,213	2,715	2,271	2,301	2,398	2,283	2,186	2,665	2,301	3,090	2,660	31,957
Army and Navy survivors and statistical cards	314,532	32,187	3,304	3,151	2,599	3,047	2,598	2,852	3,027	2,623	1,334	605	371,859
Congressional communications	14,957	7,748	3,778	4,736	3,719	11,485	12,097	11,157	5,078	3,552	3,203	3,284	84,794
Letters of inquiry	83,470	89,027	69,261	88,636	99,794	85,052	76,973	87,270	77,115	69,810	63,702	58,782	948,892
Money received in mail	$603.00	$1 105.37	$2,357.64	$563.60	$1,207.20	$1,295.53	$1,217.80	$634.54	$831.00	$2,444.69	$6,881.88	$1,210.70	$20,352.95
Postage stamps received in mail	438	517	514	463	560	552	635	812	359	363	378	371	5,962
MISCELLANEOUS.													
Number of foreign letters sent (postage prepaid)	174	144	143	207	183	193	127	177	142	186	148	114	1,938
Total number of pieces received for the year	652,785	372,422	286,181	305,855	303,719	329,620	290,009	294,413	281,127	277,514	286,236	300,184	3,980,065
Total number of letters sent out for the year	207,169	178,607	170,333	195,186	183,467	186,182	160,837	188,464	158,506	207,932	235,542	197,205	2,269,430
Calls on Adjutant-General sent (not included in letters sent)	15,321	9,591	9,299	13,540	11,996	12,589	9,213	10,662	9,577	14,214	10,263	11,758	138,023
Blanks sent (not included in letters sent)	1,780	1,614	1,710	2,036	1,032	2,123	2,133	1,986	1,590	1,478	815	857	19,154

*This includes duplicates.

TABLE No. 19.—*Operations of the special examination service of the Office, showing investigations made, etc., during the fiscal year ending June 30, 1893.*

	Number of investigations made, 1892.	Expenses in 1892.	Number of investigations made, 1893.	Expenses in 1893.
Cases returned by special examiners in the field	14,461	.....	17,101	.....
Expenses of special examiners, subsistence	.....	$123,346.66	.....	$140,300.40
Expenses of special examiners, travel, etc. (including cost of travel over subsidized railroads)	.....	75,910.55	.....	82,285.67
Total	14,461	199,257.21	17,101	222,586.07

Statement showing a comparison of work performed by special examiners, with cost of same, during fiscal years ending June 30, 1892 and 1893.

	1892.	1893.
Average number of examiners per month	114	129
Reports made	14,461	17,101
Average number of reports per examiner per month	10⅔	11
Depositions taken	71,697	83,222
Average number of depositions per examiner per month	52⅔	53⅔
Expenses exclusive of salary	$199,257.21	$222,586.07
Average cost of each report	13.78	13.02
Average cost of each deposition	2.78	2.67

Work accomplished by review section during fiscal years ending June 30, 1892 and 1893.

	1892.	1892.	1893.	1893.
Reviewers employed, average number of	.....	5	.....	4½
Days employed	.....	1,180	.....	1,028
Cases submitted for admission	.....	1,484	.....	1,762
Cases submitted for rejection	.....	118	.....	596
Cases submitted for further examination	.....	8,589	.....	8,546
Cases otherwise disposed of	.....	1,043	.....	1,056
Cases reviewed	.....	11,234	.....	11,960
Circulars, calls, and letters to special examiners	.....	814	.....	506
Cases in division July 1, 1892	3,517	.....	5,967	.....
Cases received from July 1, 1892, to June 30, 1893	11,035	14,552	18,478	24,445
Cases submitted to board of review	7,115	.....	7,927	.....
Cases sent to admitted files	54	.....	24	.....
Cases sent to other divisions	1,416	8,585	1,943	9,894
Total number of cases in division July 1, 1892 and 1893	.....	5,967	.....	14,551
Cases detailed to special examiners in field	.....	.....	.....	.....
Original examination	9,637	.....	14,495	.....
Further examination	9,053	.....	9,630	.....
Criminal examination	111	18,801	1,143	25,268
Reports made by special examiners upon cases returned from the field	.....	16,568	.....	20,108

TABLE No. 20.—*Names of surviving widows of Revolutionary soldiers who have been regularly paid their pensions to the close of the fiscal year 1893, with their ages and places of residence at that date.*

Name.	Age.	Name of soldier.	Service.	Town.	State.
Aldrich, Lovey	93	Aldrich, Caleb	New Hampshire and Rhode Island.	San Diego	California.
Brown, Mary	88	Brown, Joseph	Pennsylvania	Knoxville	Tennessee.
Cloud, Nancy	80	Cloud, William	Virginia	Chum	Virginia.
Chadwick, Susannah*	78	Chadwick, Elihu	New York	Emporium	Pennsylvania.
Dabney, Sarah	93	Dabney, John Q	Virginia	Barry	Illinois.
Damon, Esther S	79	Damon, Noah	Massachusetts	Plymouth Union	Vermont.
Hurlburt, Sarah C.*	75	Weeks, Elijah	do	Chatham Valley	Pennsylvania.
Jones, Nancy	79	Darling, James	North Carolina	Jonesboro	Tennessee.
Mayo, Rebecca	80	Mayo, Stephen	Virginia	Newbern	Virginia.
Newton, Mary*	89	Jordan, John	do	Athens	Georgia.
Richardson, Patty	92	Richardson, Godfrey.	New York	East Bethel	Vermont.
Smith, Meridy	88	Smith, William	North Carolina.	Newton	Georgia.
Snead, Mary	77	Snead, Bowdoin	Virginia	Parksley	Virginia.
Slaughter, Ann M.*	83	Slaughter, Philip.	do	Mitchell Station.	Do.
Thatcher, Frances	.....	Thatcher, Abijah.	Connecticut	Norwich	Connecticut.
Turner, Asenath	88	Durham, Samuel	do	Manchester	New York.
Weatherman, Nancy.	83	Glascock, Robert.	Virginia	Lienback	Tennessee.

*Daughters pensioned by special act.

TABLE No. 21.—*Names of 86 surviving soldiers and sailors of the war of 1812 on the pension rolls June 30, 1893, with their ages and residences at that date.*

Name.	Age.	Service (troops).	Town.	State.
Allen, Josiah	93	Mississippi	P. K	Indian Territory.
Ames, David H	100	New York	Jerseyville	Illinois.
Atchinson, Austin	102	do	Spencerport	New York.
Allen, George R	99	do	Norwood	Do.
Bacon, Zephaniah	100	do	Pattens Mills	Do.
Bartoo, Samuel A	96	do	Cottage	Do.
Brown, Hosea	101	do	Drain	Oregon.
Buffington, Stephen	98	Massachusetts	Swansea Center	Massachusetts.
Casteel, Samuel	96	Pennsylvania	East Brook	Pennsylvania.
Churchill, Benjamin	98	New York	Mount Pleasant	Illinois.
Clark, George W	97	Virginia	Beatrice	Nebraska.
Cleveland, Moses	94	New York	National Home	Wisconsin.
Clapp, Chester	99	do	Ballston	New York.
Coffman, Joseph	91	United States	Millsap	Texas.
Condit, Moses	98	New Jersey	Orange	New Jersey.
Cortelyon, Jaques	97	New York	Hopewell	New York.
Corbin, Joab	94	do	Lapeer	Michigan.
Covenhoven, Elias E	99	do	Petries Corners	New York.
Cronk, Hiram	93	do	North Western	Do.
Curd, Jarrot	97	Tennessee	Pine Wood	Tennessee.
Cypher, John	98	New York	Farmers Creek	Michigan.
Dally, Abraham	98	do	Brooklyn	New York.
Daniels, Clark	98	Vermont	Morganville	Do.
Dennis, William M	100	Georgia	Eatonton	Georgia.
Dawson, John	104	United States	Terre Haute	Indiana.
Downey, John	106	South Carolina	Allen Factory	Alabama.
Dronillard, Joseph	96	United States	Gallipolis	Ohio.
Emmons, Samuel	98	New York	Brewerton	New York.
Follet, Oren	96	U. S. (Navy)	Cincinnati	Ohio.
Franklin, Andrew	100	Ohio	Burlington	Kansas
Furgeson, Jared	96	United States	Decorah	Iowa.
Glenn, Elijah	97	Maryland	Newark	New Jersey.
Hooper, James	90	U. S. (Navy)	Baltimore	Maryland.
Higgins, Samuel C	99	Massachusetts	West Gorham	Maine.
Hudson, Joel	98	New York	Springwater	New York.
Humphrey, Leavitt	91	Massachusetts	Brookline	Massachusetts.
Ireland, John W	105	United States	Hamptonville	North Carolina.
Jones, George W	90	do	Washington	Dist. of Columbia.
Kinsel, John	94	Massachusetts	Hager City	Wisconsin.
Klock, Abraham	92	New York	Brier Hill	New York.
Lumberson, John	87	United States	Baltimore	Maryland.
Lowell, James B	96	Massachusetts	Liverpool	Ohio.
Lyon, Alex	96	New York	Park City	Utah.
Lejenne, Laman	97	Louisiana	Thibodeaux	Louisiana.
Lints, Frederick	98	New York	Alder Creek	New York.
Miller, Charles	99	do	Boonville	Do.

TABLE NO. 21.—*Names of 86 surviving soldiers and sailors of the war of 1812 on the pensions rolls June 30, 1893, etc.*—Continued.

Name.	Age.	Service (troops).	Town.	State.
Mickley, Daniel	97	Pennsylvania	Waynesboro	Pennsylvania.
Markle, Frederick	98	New York	Hurley	New York.
Morris, Henry	93	....do	Port Chester	Do.
Moss, William C	.....	Connecticut	Stonington	Connecticut.
McCoy, David	103	Kentucky	Redland	California.
Mitchell, James W. L	96	Massachusetts	Keens Mills	Maine.
Nye, Cornelius	.....	United States	Lynn	Massachusetts.
Orsburn, David	95	New York	Tupper Plains	Ohio.
Packard, Samuel	90	Massachusetts	Rockland	Maine.
Phillips, Henry	99	United States	Lawton Station	New York.
Parks, Davis	98	New York	De Witt	Michigan.
Peavey, John W	95	New Hampshire	Braintree	Vermont.
Pratt, Samuel, jr	94	New York	West Sumter	Michigan.
Putnam, Newell	98	....do	Newark	New Jersey.
Robinson, Thomas	96	Connecticut	Wolcott	Connecticut.
Robinson, James	98	United States	Livia	Kentucky.
Raymond, Daniel	99	Massachusetts	Raymond	Pennsylvania.
Root, Amon	100	Connecticut	Whitewater	Wisconsin.
Ray, Leonard	97	United States	Gilmer	Texas.
Richards, Isaac	98	Massachusetts	East Machias	Maine.
Smith, Elezor	97	New Hampshire	Alexandria	New Hampshire.
Sparrow, Harvey	97	Massachusetts	East Orleans	Massachusetts.
Soule, Israel	99	....do	Westport Point	Do.
Spinney, Thomas	92	Maine	Parkers Head	Maine.
Smart, Edward	96	Massachusetts	North Dixmont	Do.
Scruton, Miles	101	New Hampshire	Merrill	New Hampshire.
Smith, Nathaniel	103	New York	Hempstead	New York.
Sherer, John	104	....do	East Paris	Michigan.
Sturtevant, T. M	93	....do	Madison	New Jersey.
Simpson, Presley	97	Virginia	Paris	Kentucky.
Sexton, Isaiah	88	New York	Reeds	Michigan.
Sevey, Ira	94	United States	Mount Vernon	Maine.
Tappen, Charles B	96	New York	New York City	New York.
Thomas, ———	95	United States	Millington	Michigan.
Townley, Joseph	93	Pennsylvania	Chili	Ohio.
Walton, Andrew	96	New York	Saybrook	Do.
Whitney, Nathan	102	....do	Franklin	Illinois.
Ware, Silas	97	....do	Waukesha	Wisconsin.
Wood, Jabin	98	....do	South Richland	New York.
Yancey, William R	92	United States	Daphne	Alabama.

PENSIONS AND PENSION APPEALS.

DEPARTMENT OF THE INTERIOR,

WASHINGTON, D. C., *November 1, 1893.*

To the Secretary:

I have the honor to submit my report of the work done by the Board of Pension Appeals, under my supervision and that of my predecessor, from the beginning of the fiscal year commencing July 1, 1892, to the present time. This work relates to the adjudication of claims for pension which are appealed to the Secretary from the adverse action of the Commissioner of Pensions; to the final disposition and decision of such other appeals from the Commissioner as involve questions of attorneyship and of fees in pension cases; and also to correspondence with claimants and attorneys, having reference to such appeals. The amount of work accomplished, including decisions prepared and current correspondence, is summarized in the following tabulated statements:

ANNUAL STATEMENT.

TABLE I.

ORIGINAL APPEALS.

Statement showing disposition of pension claims from July 1, 1892, to June 30, 1893.

	Appeals pending on the first day of the month.	Appeals filed during the month.	Total.	Action of the Pension Office sustained.	Action of the Pension Office reversed.	Reconsidered by the Pension Office pending appeal.	Appeals dismissed.	Total appeals disposed of.
1892.								
July	4,349	320	4,669	241	46	22	12	321
August	4,348	3	4,351	314	55	3	6	378
September	3,973	890	4,863	246	27	24	21	318
October	4,545	407	4,952	217	49	19	20	305
November	4,647	326	4,973	218	73	5	19	315
December	4,658	305	4,963	198	45	14	17	274
1893.								
January	4,689	379	5,068	297	28	19	38	382
February	4,686	364	5,050	251	29	21	7	308
March	4,742	369	5,111	358	54	18	17	447
April	4,664	462	5,126	284	29	6	22	341
May	4,785	491	5,276	446	31	12	39	528
June	4,748	204	4,952	415	19	9	52	495
July	4,457	.....	.....	.....	.....	.....	.....	.....
Totals	.....	4,520	.....	3,485	485	172	270	4,412

TABLE II.

MOTIONS FOR RECONSIDERATION.

Statement showing disposition of motions for reconsideration from July 1, 1892, to June 30, 1893.

	Motions for reconsideration pending on the first of the month.	Motions for reconsideration filed during the month.	Total.	Motions for reconsideration overruled.	Motions for reconsideration sustained.	Reconsidered and allowed by the Commissioner of Pensions.	Motions for reconsideration dismissed.	Total motions for reconsideration disposed of.	Letters referred to the Commissioner of Pensions.	Letters sent.
1892.										
July	182	17	199	14	.....	3	.....	17	815	600
August	182	1	183	17	1	.....	.....	18	640	330
September	165	34	199	9	3	3	.....	15	1,295	1,165
October	184	21	205	23	4	.....	.....	27	775	640
November	178	36	214	20	.....	.....	.....	20	1,220	895
December	194	20	214	25	3	1	.....	29	1,105	845
1893.										
January	185	9	194	13	.....	1	1	15	1,295	935
February	179	21	200	10	.....	.....	.....	10	1,225	945
March	190	28	218	25	3	.....	.....	28	1,625	1,135
April	190	21	211	26	1	2	.....	29	1,405	1,065
May	182	12	194	27	2	2	.....	31	1,655	1,265
June	163	13	176	25	3	.....	.....	28	800	605
July	148	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	.....	233	.....	234	20	12	1	267	13,855	10,425

TABLE III.

FEE APPEALS.

Statement showing disposition of appeals relating to attorneyship and fees from July 1, 1892, to June 30, 1893.

	Fee appeals pending on the first of the month.	Fee appeals filed during the month.	Total.	Action of the Pension Office sustained.	Action of the Pension Office reversed.	Reconsidered by the Pension Office pending appeal.	Fee appeals dismissed.	Total fee appeals disposed of during the month.
1892.								
July	75	36	111	16	3	9	.....	28
August	83	6	89	31	2	10	.....	43
September	46	61	107	29	6	10	1	46
October	61	23	84	9	3	11	.....	23
November	61	70	131	44	3	21	2	70
December	61	57	118	26	1	12	.....	39
1893.								
January	79	85	164	28	7	14	.....	49
February	115	47	162	32	5	17	.....	54
March	108	97	205	33	7	9	.....	49
April	156	31	187	27	4	12	1	44
May	143	80	223	77	2	29	3	111
June	112	64	176	58	3	16	.....	77
July	99	.....	.....	.....	.....	.....	.....	.....
Totals	.....	657	.....	410	46	170	7	633

RECAPITULATION.

ORIGINAL APPEALS.

Appeals pending July 1, 1892	4,349	
Appeals filed from July 1, 1892, to June 30, 1893	4,5.0	
Total		8,8C9
Appeals wherein Pension Office was sustained	3,485	
Appeals wherein Pension Office was reversed	485	
Appeals reconsidered by Pension Office pending appeal	172	
Appeals dismissed	270	
Total		4,412
Appeals pending July 1, 1893		4,457

MOTIONS FOR RECONSIDERATION.

Motions for reconsideration pending July 1, 1892	182	
Motions for reconsideration filed from July 1, 1892, to June 30, 1893	233	
Total		415
Motions for reconsideration overruled	234	
Motions for reconsideration sustained	20	
Motions for reconsideration allowed by Pension Office	12	
Motions for reconsideration dismissed	1	
Total		267
Motions for reconsideration pending July 1, 1893		148

FEE APPEALS.

Fee appeals pending July 1, 1892	75	
Fee appeals filed from July 1, 1892, to June 30, 1893	C57	
Total		732
Fee appeals wherein Pension Office was sustained	410	
Fee appeals wherein Pension Office was reversed	46	
Fee appeals reconsidered by Pension Office pending appeal	170	
Fee appeals dismissed	7	
Total		633
Fee appeals pending July 1, 1893		99

CORRESPONDENCE.

Letters referred to the Commissioner of Pensions	13,855
Letters sent	10,425

SUPPLEMENTAL STATEMENT.

In addition to the foregoing tables embracing the work of the last fiscal year, the following tabulated statements showing the amount of work done from July 1, 1893, to November 1, 1893, is submitted:

TABLE IV.

ORIGINAL APPEALS.

Statement showing disposition of pension claims from July 1, 1893, to November 1, 1893.

	Appeals pending on the first day of the month.	Appeals filed during the month.	Total.	Action of the Pension Office sustained.	Action of the Pension Office reversed.	Reconsidered by the Pension Office pending appeal.	Appeals dismissed.	Total appeals disposed of.
1893.								
July	4,457	165	4,622	137	22	5	73	437
August	4,185	53	4,238	308	4	7	79	398
September	3,840	238	4,078	298	14	7	46	365
October	3,713	135	3,848	197	7	2	24	230
November	3,618	.....	.....	.....	.....	.....	.....	.....
Totals	.....	591	.....	1,140	47	21	222	1,430

TABLE V.

MOTIONS FOR RECONSIDERATION.

Statement showing disposition of motions for reconsideration from July 1, 1893, to November 1, 1893.

	Motions for reconsideration pending on the first of the month.	Motions for reconsideration filed during the month.	Total.	Motions for reconsideration overruled.	Motions for reconsideration sustained.	Reconsidered and allowed by the Commissioner of Pensions.	Motions for reconsideration dismissed.	Total motions for reconsideration disposed of.	Letters referred to the Commissioner of Pensions.	Letters sent.
1893.										
July	148	5	153	11	1	.....	2	14	1,165	855
August	139	7	146	21	1	.....	2	24	1,062	777
September	122	5	127	10	.....	2	.....	12	687	594
October	115	9	124	16	1	1	.....	18	795	585
November	106	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	.....	26	.....	58	3	3	4	68	3,709	2,811

TABLE VI.

FEE APPEALS.

Statemcnt showing disposition of appeals relating to attorneyship and fees from July 1, 1893, to November 1, 1893.

	Fee appeals pending on the first of the month.	Fee appeals filed during the month.	Total.	Action of the Pension Office sustained.	Action of the Pension Office reversed.	Reconsidered by the Pension Office pending appeal.	Fee appeals dismissed.	Total fee appeals disposed of during the month.
1893.								
July	99	38	137	35	2	18	2	57
August	80	23	103	19	2	9	.....	30
September	73	62	135	42	2	15	.....	59
October	76	26	102	18	1	2	.....	21
November	81	.....	.....	.....	.....	.....	.....	.....
Totals	.....	149	.....	114	7	44	2	167

RECAPITULATION.

ORIGINAL APPEALS.

Appeals pending July 1, 1893		4,457
Appeals filed from July 1, 1893, to November 1, 1893		591
Total		5,048
Appeals wherein Pension Office was sustained	1,140	
Appeals wherein Pension Office was reversed	47	
Appeals reconsidered by Pension Office pending appeal	21	
Appeals dismissed	222	
Total		1,430
Appeals pending November 1, 1893		3,618

MOTIONS FOR RECONSIDERATION.

Motions for reconsideration pending July 1, 1893	148	
Motions for reconsideration filed from July 1, 1893, to November 1, 1893	26	
Total		174

Motions for reconsideration overruled	58	
Motions for reconsideration sustained	3	
Motions for reconsideration allowed by Pension Office	3	
Motions for reconsideration dismissed	4	
Total		68
Motions for reconsideration pending November 1, 1893		106

FEE APPEALS.

Fee appeals pending July 1, 1893	99	
Fee appeals filed from July 1, 1893, to November 1, 1893	149	
Total		258
Fee appeals wherein Pension Office was sustained	114	
Fee appeals wherein Pension Office was reversed	7	
Fee appeals reconsidered by Pension Office pending appeal	44	
Fee appeals dismissed	2	
Total		167
Fee appeals pending November 1, 1893		81

CORRESPONDENCE.

Letters referred to the Commissioner of Pensions	3,709
Letters sent	2,801

THE WORK.

The business transacted, as indicated by the foregoing tabulated statements, has been accomplished with commendable thoroughness, and bears testimony to the industry, efficiency, and cheerfulness with which the members and employés of the Board of Pension Appeals have labored to dispose of the number of appeals and motions for reconsideration with which the docket has been crowded. Your attention is called to the fact of the comparatively few instances wherein the action of the Commissioner of Pensions has been overruled in proportion to the whole number of claims considered, evincing, as it does, the care with which the rulings of the Department are followed and observed by the Bureau of Pensions. The instances where the action of the Commissioner has been reversed on appeal are chiefly in cases wherein the evidence was of a more or less conflicting, doubtful, or complicated character, or in which arose certain questions of law the proper decision of which required an authoritative expression of opinion from this Department.

RECENT IMPORTANT DECISIONS.

Since my incumbency of the office of Assistant Secretary of this Department, several very important decisions have been rendered which have tended to change to some extent, and, it is believed, improve the practice of the Bureau of Pensions in the adjudication of pension cases, and by which some grave errors in the administration of the pension laws have been corrected. One of the most important of these, and the one which has been most farreaching in its effects and consequences, and has attracted public attention and comment to a greater degree than any other, was the decision rendered May 27, 1893, in the case of Charles

T. Bennett, late of Company F, Thirteenth Indiana Volunteers, by which the proper and legal basis of pension under the second section of the act of June 27, 1890, was defined, and in pursuance of which you revoked order No. 164 of the late Commissioner of Pensions, and abrogated the illegal and improper practices thereunder. Although said decision has been very severely criticised in certain quarters, it is to be noted that it is strictly in line with decisions of my immediate predecessor in the cases of Washington Borden, rendered August 3, 1892 (6 P. D., 17); Patrick Carroll, rendered February 1, 1893 (Ibid, 259), and Henry H. Weike, rendered January 7, 1893 (Ibid, 193). Under this decision, the practice of the Bureau of Pensions has been made to conform to the provisions of the law, and the improper and illegal disbursement of very large amounts of public money has been stopped.

Under a decision rendered by me June 27, 1893, the benefits of the act of August 5, 1892, granting pensions to Army nurses, were extended to women who were employed in hospitals superintending and preparing proper and suitable diet for the sick and wounded under the directions of the surgeons in charge, upon their making the proof and fulfilling the conditions required by the terms of the act, thus securing to this class of most worthy and deserving applicants, who were clearly included within the terms of the statute, their rights thereunder, which had previously been denied them.

In the case of Joseph P. Smith, a decision was rendered August 15, 1893, deciding and defining the amount fixed by law for the fees of attorneys in claims for increase of pension under the act of June 27, 1890, by which a saving of many thousand dollars to pensioners was accomplished.

In the case of Timothy L. Carley, a decision was rendered August 18, 1893, which definitely fixed and established the date of the commencement of a pension granted under the provisions of the second section of the act of June 27, 1890, a subject upon which there had previously existed a great deal of uncertainty and confusion in the practice of the Bureau of Pensions.

The foregoing are a few of the more important decisions that have been rendered, wherein the former holdings of the Department, and the practice of the Bureau, have been departed from or modified, and are merely mentioned to show the character and nature of such changes as I have thought were necessary. In the vast majority of cases decided by me the former rulings and decisions of the Department have been followed, and in no instance have they been disturbed or modified, except where it appeared that the plain requirements of the law, or the good of the service, demanded such action.

In this connection it is proper to state that since the last report of the Assistant Secretary the sixth volume of "Decisions of the Department of the Interior in Appealed Pension Claims," with a topical index to, and concise notes of, the decisions contained in the six volumes

of the series, has been published, embracing the decisions selected for publication down to March 11, 1893, during the incumbency of my predecessor.

The seventh volume, embracing decisions rendered under my own supervision, is now in course of preparation upon the same plan pursued since the commencement of the publication of the series.

RULES OF PRACTICE.

Upon taking charge of the office of Assistant Secretary I soon discovered that the practice of this Department and of the Bureau of Pensions relative to the granting, hearing, and adjudication of appeals in pension and fee cases was in a very unsatisfactory state.

Rules of practice in appeal cases had, from time to time, been promulgated by former Secretaries of the Interior, but appear to have never been strictly enforced, and had been suffered, to a great extent, at least, to fall into disuse.

I, therefore, prepared a new code of rules for the government of the practice of this Department and the Bureau of Pensions in appealed pension cases, which were submitted to you, and approved and promulgated September 9, 1893.

It is believed that a strict enforcement of these Rules of Practice will not only tend to expedite the business of the Department and the Bureau, but will be of great benefit to both the attorneys and claimants for pension.

REORGANIZATION OF THE BOARD OF PENSION APPEALS.

The membership of the Board of Pension Appeals having been increased by the act of Congress making appropriation for the legislative, executive, and judicial expenses of the Government for the fiscal year ending June 30, 1887, from three to nine, the Board was reorganized in October, 1886, by an order of the Secretary of the Interior, into three divisions, each consisting of three members. These divisions acted upon appeals independently and without direct reference to each other, the controlling idea and purpose of this organization being that each division of the Board should decide and dispose of appeals in certain distinct classes of pension claims, namely: Original invalid claims by one division, increase claims by another, and dependent, widow's, and restoration claims by a third. It was, however, very soon rendered manifest that this division of the work was wholly impracticable, owing to the impossibility of the Bureau of Pensions to report upon the appealed cases in the order named, and, also, to the fact of the great multiplication of appeals, at times, in one class of pension claims over the others. Therefore, all distinction between the character of the work performed and the class of appealed pension claims passed upon by the different

divisions of the Board was soon abandoned, but the organization into three separate divisions was continued long after the reason for it had ceased to exist, and notwithstanding the fact that it tended very seriously to impair that harmony of action and uniformity in the decisions of the Board, which was absolutely necessary to the accomplishment of the best results, and also unnecessarily added very greatly to the labors of the Assistant Secretary.

Believing that the work would be greatly benefited, as well as expedited, by a different organization, I, with your sanction and approval, proceeded, soon after taking charge of this work, to reorganize said Board into one body, under the immediate control of a chairman and assistant chairman, selected from the members of the Board, upon the same general plan with all other divisions of your office. This plan of organization has now been in operation for several months, and I am pleased to be able to state that it has fully met my expectations, and has proved highly satisfactory both in rendering the decisions of the Board more generally harmonious, in preventing the preparation of conflicting decisions on the same subjects, and, also, in expediting the work of the Board in disposing of cases on appeal.

Under the present organization of the Board all decisions are carefully reviewed and initialed by the chairman and assistant chairman before being presented to me, when they are again examined, revised if necessary, and then approved and signed.

CONCLUSION.

In conclusion, I desire to call attention to the fact, appearing from the foregoing supplemental tabulated statements, embracing the period from July 1, 1893, to the present time, that for the first time in several years past there has been a steady gain in the number of appeals disposed of during the last six months over the number filed during the same period, and it is hoped that by the end of a year from this date the present large accumulation of appeals may, in great part, be disposed of, and the docket cleared of, practically, all but current business.

I am encouraged in this expectation from the fact also appearing from the foregoing tabulated statements, that on the 15th day of April, 1893, when I entered upon the duties of my office, 5,041 cases were undisposed of on appeal to the Secretary. Besides disposing of cases equal to the number appealed since that date, the accumulated appeals have been reduced to 3,805.

Respectfully submitted.

JNO. M. REYNOLDS,
Assistant Secretary.

Hon. HOKE SMITH.

REPORT

OF THE

SUPERINTENDENT OF CENSUS.

DEPARTMENT OF THE INTERIOR,
CENSUS OFFICE,
WASHINGTON, D. C., July 31, 1893.

SIR:

I have the honor to submit herewith a report of the operations of the Census Office from the date of my last report, June 30, 1892, up to date.

The organization of the office into 9 divisions instead of 25, which was effected previous to the date of my last report, has been continued, and the work of each has progressed satisfactorily and is now nearing completion.

CONDITION OF THE REPORTS.

In addition to the regular volumes which will form the final report, the following monographs are in print and will soon be published:

Special Report on the Vital Statistics of Baltimore and the District of Columbia.
Manufactures of the City of New York.
Special Report on Textiles.
Special Report on Electrical Industries of New York State.
Special Report on Transportation on the Pacific Coast.

Volume I of the Compendium was published more than a year ago, and of the second volume 606 pages are plated and 148 are in type.

The following volumes of the final report have been published and the first two named distributed:

Mineral Resources of the United States.
Wealth, Debt, and Taxation—Part I: Public Indebtedness.
Alaska.

The present condition of all the reports can be seen from the following table:

SUMMARY OF FINAL REPORTS AND COMPENDIUM.

TITLES.	NUMBER OF PAGES.		
	Total.	In type.	Plated.
Mineral Industries	874	.....	874
Wealth, Debt, and Taxation	902	.....	902
Alaska	294	.....	294
Indians	886	127	759
Transportation	560	108	452
Vital and Social Statistics	791	242	549
Insurance	768	294	474
Manufactures	328	328	.....
Crime, Pauperism, and Benevolence	637	347	290
Churches	.....	.....	.....
Population	541	541	.....
Fish and Fisheries	.....	.....	.....
Education	.....	.....	.....
Agriculture	.....	.....	.....
Farms, Homes, and Mortgages	.....	.....	.....
Compendium—Part I	1,098	.....	1,098
Do ..... Part II	754	148	606
Total	8,433	2,135	6,298

SUMMARY OF BULLETINS.

	NUMBER OF PAGES.
Regular Bulletins	4,850
Extra Bulletins	1,216
Total	6,066

RECAPITULATION.

	NUMBER OF PAGES.
Final Reports and Compendium	8,433
Bulletins	6,066
Total	14,499

BULLETINS.

The immediate publication by means of preliminary bulletins of results obtained in each branch of inquiry has proved a most useful and popular feature of the Eleventh Census. At the date of my last report 223 of these bulletins, with a total of nearly 5,000 pages, had been published or were at that time in type. Since then 205 have been issued, comprising about 1,100 pages. As the final reports approach completion the number of these preliminary publications proportionally decreases, and but few more will be necessary.

FINANCIAL REPORT.

The total disbursements on account of the Eleventh Census up to and including July 31, 1893, amounted to $9,468,582.81, paid from appropriations, as follows:

"Expenses Eleventh Census"	$7,719,903.59
"Farms, homes, and mortgages"	1,151,157.12
"Printing, engraving, and binding"	597,522.10
Total	9,468,582.81

The foregoing amount is chargeable to branches of investigations as follows:

Census proper	$836,497.80
Printing and stationery	737,452.16
Supervisors	270,554.99
Enumerators	2,485,622.88
Population and social statistics	1,524,490.70
Manufactures	920,945.63
Agriculture	404,207.57
Vital statistics and special classes	301,330.06
Wealth, debt, and taxation	185,397.29
Farms, homes, and mortgages	1,169,766.57
Mines and mining	196,119.71
Fish and fisheries	140,256.09
Transportation	140,786.61
Insurance	47,598.36
Churches	47,136.51
Pauperism and crime	60,419.88
Total	9,468,582.81

The following table gives the total number of clerks carried on the pay roll during each month since the date of my last report, and is a continuation of the table on page 11 of that report:

MONTHS.	Total number on pay rolls.	Total amount of pay rolls.
July, 1892	1,221	$77,341.40
August, 1892	1,228	77,266.65
September, 1892	1,235	74,932.25
October, 1892	1,255	78,412.05
November, 1892	1,150	75,004.70
December, 1892	1,155	73,670.50
January, 1893	1,174	75,636.50
February, 1893	1,172	69,370.05
March, 1893	1,206	77,203.45
April, 1893	1,177	71,379.55
May, 1893	1,099	69,656.05
June, 1893	1,070	65,789.50
July, 1893	1,050	66,207.20
Total		951,869.85
Total to June 30, 1892		3,194,695.15
Grand total to July 31, 1893		4,146,565.00

ADMINISTRATION.

As will be seen by the foregoing table, the clerical force of the office numbered 1,050 on July 31, 1893. The number of employés was largely reduced last fall, but since then it has not been found possible to make any material decrease without detriment to the work. And yet, although the office force has remained nearly stationary, there has really been a very large reduction in the number of employés, as the services of nearly all the special agents engaged in fieldwork and performing other duties outside of the office have terminated.

POPULATION DIVISION.

In this division the running of the cards through the tabulating machines for the purpose of compiling the data called for on the population schedule has been continued during the year. In all, three complete runs of the whole number of cards will be necessary. One of these runs had been finished previous to the date of my last report. The second run, together with 25,000,000 cards of the third run, has been made within the time covered by the present report. As each of these runs involves the handling of over 60,000,000 cards, and as the average daily number per clerk is about 5,000, it will be seen that this work involves a great expenditure of time and labor.

As stated above, the present run of the cards is the last which involves handling the whole number, but several supplementary compilations will remain to be made, such as those for ascertaining information as to occupations, number of aliens, extent of illiteracy, language, survivors of the war, etc. As the results of these compilations, however, relate only to distinct classes of the population, they are naturally among the last secured, and the cards for each class can be sorted out from the main body of the cards, and the remainder finally disposed of.

As originally contemplated, a thorough compilation and analysis of the facts concerning these and other subjects was to be made, but the limitation of the office by act of Congress to the present calendar year rendered it necessary that the work outlined should be abridged to an extent which would permit compilation of the most essential features only, and while the facts relating to our alien and illiterate population and to the survivors of the war are important and desirable in connection with the absorbing questions of immigration and pensions, the occupations of the people are of still greater statistical importance, and have therefore been given precedence.

It is not probable that any of the subjects mentioned can be reached after the completion of the occupation count, which will be next in

order, and which will take very nearly the whole remaining time. The work of sorting out the cards for the classes mentioned, as well as for those owning or renting homes or farms, which is being done during the present count, will be continued, and at the end all cards for each class will be grouped and most conveniently arranged for the further compilation of any combinations of facts either possible or desirable in relation to that particular class.

Eight bulletins were prepared and issued during the year. Part I of the Compendium was issued, containing 913 pages of matter, exclusive of that relating to Alaska, which was also revised and prepared for publication in this division. All of the population matter for Part II of the Compendium, making 100 pages, was completed, copy furnished the printer, and page proofs revised. The copy for Part I of the final report upon population, making about 1,000 pages, was transmitted to the printer complete.

MANUFACTURES.

The tabulation of returns for the general report on all classes of industry for the United States has been completed with the exception of those for the states of Wisconsin and Wyoming, and the comparison of these tabulations with the returns has been completed for the states and territories in alphabetical order to and including Tennessee.

The collection of statistics in the principal cities, which was suspended June, 1891, was resumed during the past year, and the recanvass in 361 cities completed, about 25,000 additional returns being secured.

One hundred and fifty-five bulletins on the manufactures of cities and for selected industries have been published; also synopses of the reports on the iron and steel industries of the western states and New York and New Jersey. Monographs on the manufactures of the city of New York and on the electrical industries of the state of New York have been sent to the printer. The final report on the manufacture of wool, hosiery and knit goods, cotton, silk, and dyeing and finishing of textiles has also been prepared and proof is now being corrected. The special reports on the manufacture of chemicals and glue, also a partial report on salt, have been prepared and will soon be in the hands of the printer. The returns for the manufacture of gas, iron and steel, glass, coke, and petroleum have been tabulated for the special reports, and preliminary totals prepared.

Returns for the states and territories in alphabetical order to and including New York have been tabulated for special reports on agricultural implements, brick yards, boots and shoes, paper mills, flour

and grist mills, cheese, butter, and condensed milk, slaughtering and meat packing, and carriages and wagons, factory product.

The returns for shipbuilding and clay and pottery have been tabulated on sheets for the general report. About 11,000 returns have been received of special schedules on printing, publishing, and the periodical press. Of these about 9,000 have been tabulated for the special report, and the tabulation of the remaining 2,000 is in progress. The tabulation of returns for lumber, saw mills, timber products, and tar and turpentine has been completed, and preliminary totals are being prepared.

Tables of manufacturing industries in 165 cities of 20,000 and over have been completed for use in the Compendium; also tables for the same cities, giving the data in detail for the final report, together with a full presentation of statistics of labor and wages in 50 selected industries for these cities.

AGRICULTURE.

During the year this division has been engaged in compiling and tabulating the returns from the agricultural schedules, and has issued the following bulletins:

Cereal Production in the states of New York, New Jersey, Pennsylvania, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Ohio, Michigan, Missouri, Minnesota, Wisconsin, North Dakota, South Dakota, Mississippi, Kentucky, Louisiana, Tennessee, Texas, Oklahoma; Cotton Productions completed for the United States.

A summary has been prepared and bulletins consolidated for the production of cereals for the United States.

Bulletins have also been issued on artesian wells used for irrigating purposes and irrigation in the state of Washington. A special report on irrigation has been completed and is being prepared for publication.

The statistics of neat cattle, dairy products, and swine have been tabulated. Those of sheep and wool are prepared for the final report, and, including the text, are ready for the printer. The statistics of valuation and acreage of farms have been tabulated for 34 states; of grass lands and forage crops for 21 states; of peas and beans for 43 states.

FARMS, HOMES, AND MORTGAGES.

The tabulation of all particulars has been completed for 4,993,461 mortgages in 31 states, as shown in the following list:

	MORTGAGES.		MORTGAGES.
Arizona	5,062	Minnesota	390,040
Arkansas	80,673	Mississippi	99,797
California	245,656	Montana	12,654
Colorado	118,072	Nevada	3,348
Connecticut	90,867	New Hampshire	41,250
Delaware	17,671	New Mexico	7,459
District of Columbia	35,150	New York	711,576
Florida	42,039	Oregon	54,940
Georgia	103,274	Pennsylvania	1,038,982
Idaho	8,087	Rhode Island	31,985
Indiana	360,749	Utah	17,108
Kentucky	168,900	Vermont	61,379
Louisiana	60,268	Wisconsin	321,376
Maine	90,343	Wyoming	4,864
Maryland	88,129		
Massachusetts	250,880	Total	4,993,461
Michigan	430,883		

The work of the year in this tabulation represents 54 per cent of the entire work of tabulation of real estate mortgages.

The tabulation for proprietorship of and indebtedness on farms and homes was begun and completed for 5,894,839 families in 23 states, as shown in the following list:

	FAMILIES.		FAMILIES.
Arizona	13,495	New Mexico	35,504
Connecticut	165,890	New York	1,308,015
District of Columbia	43,967	Pennsylvania	1,061,626
Georgia	352,059	Rhode Island	75,010
Idaho	18,113	South Carolina	222,941
Iowa	388,517	Tennessee	334,194
Maryland	202,179	Utah	38,816
Massachusetts	479,790	Vermont	75,869
Minnesota	247,975	Wisconsin	335,456
Montana	27,501	Wyoming	12,065
Nevada	10,170	Unfinished states (estimated)	50,000
New Hampshire	87,348		
New Jersey	308,339	Total	5,894,839

This work represents 46 per cent of the entire tabulation of proprietorship and indebtedness.

A large area of country was covered by fieldwork in the farm and home investigation, and most of this fieldwork was done during the past year. A novel method was employed in this undertaking, at first experimentally, and subsequently with the assurance that the facts were more trustworthily ascertained and at less expense than they could have been by any other method. Before this plan had been found by experiment to be feasible, it had been estimated, in accordance with previous experience with statistical fieldwork, that the necessary farm and home fieldwork would cost $233,425. Under the

improved system adopted this work was accomplished at a total expense of $34,412. Special agents were sent to 1,142 counties, mostly in the south, and through negotiations by mail county clerks were employed to make returns for 254 counties. In all, the fieldwork covered 1,396 of the 2,781 counties of the United States, and from these counties reports were made for 432,412 families.

VITAL STATISTICS.

In this division the following work has been accomplished since the date of my last report:

Tables for Part I of the volume on Vital Statistics have been prepared and are now in the printer's hands. The text for this volume is nearly ready for the printer.

Tables for Part II have been compiled and are ready for the computation of ratios.

A special report on the vital statistics of Baltimore and the District of Columbia (241 pages) has been prepared and is now in the printer's hands. A similar report on the vital statistics of New York city and Brooklyn is now being prepared and will be ready for the printer in from 30 to 60 days.

The tables for the final report on social statistics of cities have been completed and are now in the printer's hands. The letterpress is in course of preparation.

Fifteen tables for the final report on special classes have been sent to the printer. The distribution and tabulation of tables for the final report have been completed for the insane, the feeble-minded, and the deaf and dumb.

CRIME, PAUPERISM, AND BENEVOLENCE.

In this division 262 final tables have been completed and delivered to the printer, of which 130 relate to prisoners, 67 to juvenile delinquents, 1 to statistics of police departments, and 64 to paupers in almshouses.

In addition 249 tables have been completed and are ready to be delivered, of which 3 relate to insane paupers and 246 to inmates of benevolent institutions.

Over six hundred pages of tables for final report are in type, and have been read and compared with original copy.

Copy has been made of 80 illustrated diagrams for the engraver, to accompany published report.

TRANSPORTATION.

The final reports on Street Railroads, Great Lakes and Lake Champlain, and the Mississippi Valley are already printed and the final report on the Pacific coast is in proof.

The work to be done consists of final corrections on the railroad report for 1890; general and text tables for the final report on railroads for the 10 years, 1880–1889; text and duplicate set of tables for report on express companies; text and tables for report on canals; text and set of duplicate tables for final report on Atlantic coast; topical index; and general results, largely text and summary tables.

It is expected that all the copy for the two volumes of the final report will be ready for the printer by the middle or end of November.

WEALTH, DEBT, AND TAXATION.

The last part of the volume on Public Indebtedness was prepared for the printer and the final revision of proof made, the volume being published in February, 1893.

The tabulation of the statistics of valuation has been the principal work within the year, and complete tables showing in detail valuation and taxation of all places having power to levy a tax, or at least all such places having a population of 1,000 or upward, have been practically completed and mainly copied for 35 states and territories, and the remaining ones are well under way.

The receipts and expenditures of schools, by counties, of about one-third of the states have been tabulated by geographical divisions, and text prepared for the printer. A statement showing the financial condition of 904 cities, being those having over 4,000 population, has also been prepared within the year. The receipts and expenditures of municipalities having above 50,000 population have been carefully revised and submitted to the several municipalities for approval.

Statistics showing by counties the estimated true value of taxed real estate and that exempt from taxation in 1890 have also been partly tabulated and per capitas computed.

REVISION AND RESULTS.

This division is engaged in revising compilations made by the several divisions of the Census Office. There were revised during the year 2,514 pages of copy for bulletins and monographs, 8,294 pages of copy for final report, and 1,406 pages of copy for Compendium. There were also revised 1,692 pages of proof for bulletins and monographs, 4,340 pages of proof for final report, 1,799 pages of proof for Compendium; in all, 12,214 pages of copy, and 7,831 pages of proof.

PRINTING AND STATIONERY.

The following work was done by this division during the period covered by this report:

In all, 540 requisitions for printing were made. 3,162,862 copies of tabulation sheets, circulars, etc., were printed under 485 requisitions. Of this number 527,000 copies were ruled. There were printed 160 regular and 27 extra bulletins, aggregating 700 pages. About 60,000 tablets were made. In addition, about 6,000 pages of monographs and final reports were read and revised. An average of 55 persons was employed to accomplish this work.

I regret that personal interests compel me to relinquish this work before the office of Superintendent expires by act of Congress, December 31, 1893. As this is my last report, I feel it a privilege to say a few words of commendation for those who have shared the burdens and no small part of the responsibilities of the Eleventh Census. The experts and special agents in charge of the several branches of inquiry are allotted their share of the credit in the reports themselves which bear their names. While some of the work has not come quite up to the standard we had hoped to attain, for reasons entirely outside of the control of those in charge of it, it can be truthfully said of the Eleventh Census that there has been no absolute failure in any particular. Everything undertaken will be completed, though in some cases with less detail than originally planned.

The summary of the condition of the final reports and bulletins given in the beginning of this report shows that up to the 31st of July there have been printed in round numbers 14,500 pages. This gives some idea of the magnitude of the work accomplished up to the present time.

In taking leave of the office, I feel entirely satisfied that each report will be finished by those who have it in charge in accordance with the plans laid down, and with the same accuracy and earnestness which has characterized the work from the beginning. As I have said, the work of the expert special agents speaks for itself, as their names are attached to the reports.

I feel that a mention in a report of this kind of the services of those who have done so much to make the organization of the office creditable and to increase the efficiency of the work is but inadequate return; yet it is the only way I have of manifesting my gratitude, which is far greater than can be expressed in words. My thanks are

due to Mr. A. F. Childs, the chief clerk of the office for about three years, whose co-operation was invaluable in all matters relating to the management of the office. Affable, polite, and of infinite tact, he will long be remembered as one of the most efficient of executive officers.

To Mr. James H. Wardle, who was assistant chief clerk, and had charge of the Appointment Division until his appointment as chief clerk, I am particularly indebted for bringing to the work 10 years of experience. Mr. Wardle had charge of closing up the work of the Tenth Census. His energy, decision, and knowledge of all matters relating to census work made his services well nigh indispensable to the Eleventh Census.

There have been disbursed from the several funds for the Census Office about ten millions of dollars, and this work has been in charge of Mr. J. C. Stoddard, for many years one of the most expert disbursing officers of the government. In the myriad accounts of the Census Office, the enumerators and special agents alone numbering over 50,000, I have never heard of a voucher having been disallowed or of any difference between the Treasury Department and the Census Office. It would be impossible to conceive of work of this kind being done with more method, more care, more precision, and with a higher sense of responsibility than has been shown by Mr. Stoddard. He certainly deserves the greatest praise for the manner in which he has filled one of the most difficult and responsible positions in connection with the office.

Of my personal and valued friend, Professor James H. Blodgett, the editor of the census, any expression of appreciation seems tame. With phenomenal care and earnestness, Mr. Blodgett edited most of the volumes of the Tenth Census, and it has fallen to his lot to do similar work for the Eleventh. In work of this kind he has no equal. Honesty of purpose, the highest possible conception of the importance of accuracy and impartiality, combined with a general knowledge which is almost phenomenal, are characteristics which are rare and which have proved invaluable to the final work of the census. In my opinion no one could have brought to this position the experience and qualities which have made Professor Blodgett's work of infinite value in so many directions.

The place occupied by Mr. Blodgett in connection with the written reports of the Census has been as ably filled by Mr. A. E. Shuman in the statistical branch of the work. A mathematician of the highest order, with a departmental experience of 15 years, including important work for the Tenth Census, Mr. Shuman came thoroughly

equipped to take charge of the Division of Results, which has been under his charge from the beginning. It is no exaggeration to say that every special agent and expert has had occasion some time during the work to be grateful to Mr. Shuman for the discovery of errors and for valuable suggestions in the preparation and presentation of tables.

My sincere thanks are also due to Miss Alice Halsey, who from the beginning to the close of my term of office has had entire charge of the correspondence of the Superintendent's office, who has recognized no hours save the exacting needs of the office, and whose industry, loyalty, and faithfulness have been appreciated far beyond the expression of words.

ROBERT P. PORTER,
Superintendent of Census.

The SECRETARY OF THE INTERIOR.

REPORT

OF THE

COMMISSIONER OF RAILROADS.

DEPARTMENT OF THE INTERIOR,
OFFICE OF COMMISSIONER OF RAILROADS,
Washington, D. C., November 1, 1893.

SIR: In compliance with the provisions of the act approved June 19, 1878, entitled "An act to create an auditor of railroad acounts, and for other purposes" (20 Stat., 169), I have the honor to submit the following report and accompanying exhibits, upon the physical and financial condition of the property and affairs of the several railroad companies coming under the jurisdiction of this Bureau, and which have submitted reports to it during the past year, according to law.

AUTHORITY CONFERRED BY THE ACT OF JUNE 19, 1878.

The title "auditor of railroad accounts" was changed to "Commissioner of Railroads" by the act making appropriations for the legislative, executive, and judicial expenses of the Government for the fiscal year ended June 30, 1882 (21 Stat., 409).

Section 2 of the first-named act establishes the office as a bureau of the Interior Department and provides for the necessary organization and expenses.

Section 3 provides that the duties of the said auditor (Commissioner of Railroads) shall be to prescribe a system of reports to be rendered to him by the railroad companies whose roads are in whole or in part west, north, or south of the Missouri River (a line drawn due north and south through the confluence of the Mississippi and Missouri rivers, has been fixed as the dividing line), and to which the United States have granted any loan, or credit, or subsidy in bonds or lands; to examine the books and accounts of each of said railroad companies once in each fiscal year, and at such other times as may be deemed necessary, to determine the correctness of any report received from them; to assist the Government directors of the Union Pacific Railway Company in all matters which come under their cognizance, whenever they may officially request such assistance; to see that the laws relating to such companies are enforced; to furnish such information to

the several Departments of the Government, in regard to tariffs for freight and passengers, and in regard to the accounts of said railroad companies, as may be required; and to make an annual report to the Secretary of the Interior (November 1) on the condition of each of said railroad companies, their road, accounts, and affairs, for the fiscal year ended June 30, immediately preceding.

Section 5 provides the penalty for neglect or refusal on the part of the railroad companies to make such report as may be called for, etc.

ISSUES OF BONDS AND GRANTS OF LAND.

The original Pacific Railroad act was approved July 1, 1862 (12 Stat., 480), and authorized the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean. It made a grant of five alternate sections per mile on each side of the road, and authorized the Secretary of the Treasury to issue bonds to the companies; said bonds to be a first lien upon the roadbed, equipment, and certain other property of the companies. No road was constructed under this act, as its terms were not considered sufficiently liberal.

The first amendment was approved July 2, 1864 (13 Stat., 356), under the terms of which the land grant was doubled, and the companies were authorized to issue first-mortgage bonds of even tenor, date, and amount of the subsidy bonds, the lien of the Government being thereby subordinated and becoming a second mortgage. It was under this act that the roads were built and bonds issued by the United States in aid of construction. These bonds are commonly called "subsidy bonds" or "currency sixes."

These grants were made upon the condition that the companies should pay said bonds at maturity; should keep their railroads and telegraph lines in repair and use, and at all times transmit dispatches and transport mails, troops, munitions of war, supplies, and public stores for the Government; and that the Government should at all times have preference in the use of the roads for all the purposes aforesaid, "at fair and reasonable rates of compensation, not to exceed the amounts paid by private parties for the same kind of service;" one-half of the compensation for transportation services to be retained by the Government and applied to the payment of said bonds and interest, until the whole amount shall have been paid; and in addition thereto the company was required to pay annually at least 5 per cent of its net earnings.

The beneficiaries under this act were the Union Pacific, Central Pacific, Western Pacific, Kansas Pacific, Central Branch Union Pacific, and the Sioux City and Pacific Railroad companies.

REQUIREMENTS UNDER THE THURMAN ACT.

After the roads had been in operation for about ten years, it was found that the amounts annually received from these companies under the requirements of law were not sufficient to reimburse the Govern-

ment for the interest upon the subsidy bonds which was being paid annually by the United States, consequently the debts were increasing instead of diminishing. This led to the amendment of May 7, 1878, commonly known as the "Thurman act;" but it was made to apply to the Union Pacific and Central Pacific railroads only. (The Western Pacific Railroad Company, having been consolidated with the Central Pacific prior to the passage of this act, is subject to its requirements.)

Under its terms, the entire compensation for services rendered in the transportation of Government supplies, mails, etc., is retained and covered into the Treasury; one-half to the credit of the account for reimbursement of interest, and one-half to the credit of the sinking fund created by the third section of this act. These companies were also required to pay in cash such an amount, in addition to the whole of the transportation and the 5 per cent of the net earnings, payable under the act of 1864, as will make in the aggregate a sum equal to 25 per cent of their annual net earnings.

FUNCTIONS OF THE OFFICE.

The most important function of the office is the ascertainment of the amounts annually due the Government by the several "bond-aided" railroad companies under existing laws. This duty requires that the bookkeepers should visit the principal offices of the respective companies once in each year and make a personal examination into their affairs. The general books of the Union Pacific Railway (the Kansas Pacific having been consolidated therewith) and the Central Branch Union Pacific are kept in Boston, Mass.; those of the Central Pacific Railroad Company are kept in San Francisco, Cal., and those of the Sioux City and Pacific Railroad Company in Chicago, Ill. This last-named railroad is operated by the Chicago and Northwestern Railway Company.

MEANING OF "NET EARNINGS."

Owing to the numerous differences of opinion as to what constituted "net earnings" within the meaning of the law, considerable litigation has ensued; but the Supreme Court has finally held that expenditures for new construction and new equipment were not proper deductions—thus sustaining the position taken by the office, and such items are therefore excluded in ascertaining the amounts due the Government each year. There are some matters still pending in the Court of Claims, the most important of which is the suit of the Union Pacific Railway Company to recover amounts collected from it on account of the earnings from the bridge across the Missouri River between Council Bluffs and Omaha; the company claiming that, as the bridge was not constructed by the aid of bonds, it is not subject to the requirements of law with respect to the payment of a percentage of net earnings. It also claimed that the Government was not entitled to a

percentage of the net earnings derived from the operation of its Pullman Association cars. The position taken by the office is sustained in United States *vs.* The Union Pacific Railway Company (99 U. S., 419), wherein the Supreme Court held that the net earnings "must be regarded as embracing all the earnings and income derived by the company from the railroad proper, and all the appendages and appurtenances thereof, including its ferry and bridge at Omaha, its cars and all its property and apparatus legitimately connected with its railroad." Under this decision the net earnings from these sources were included in amounts found due from that company.

REPORTS REQUIRED FROM LAND-GRANT RAILROAD COMPANIES.

As the Government has no pecuniary interest in what are known as the "land-grant railroads," it has not been the practice to make examination of their books and accounts. They are simply required to submit an annual report to this office, on the prescribed form, which shows their financial condition, earnings and expenses, and other data; but the office has never made any attempt to verify these reports.

It was the duty of the engineer to inspect the various properties of the companies and embody in his report thereon the principal improvements or changes made. In the event of a company failing to maintain its roadbed or equipment in good condition, the Commissioner can simply call attention to such matters in his annual report, but he has no means of compelling the companies to make repairs or remedy defects.

It is the duty of the Commissioner "to see that the laws relating to said companies are enforced * * *." Under this provision of the statute it becomes my duty to report to the Department that certain of the land-grant roads, coming under the jurisdiction of this Bureau, have, for a number of years, failed to submit a report of their operations upon the form prescribed. Owing to this fact, and to a reduced professional and clerical force, I have been unable, wholly, to report as required by law "on the condition of each of said railroad companies, their road, accounts, and affairs."

The roads which have failed to report as aforesaid are referred to by name hereafter, in their proper order.

EFFICIENCY OF THE BUREAU IMPAIRED.

Upon assuming the duties of Commissioner of Railroads, I found that the efficiency of the Bureau had been seriously impaired by a reduction in the number and pay of employés. The office of engineer had been abolished, although the law creating the Bureau requires an annual inspection of the physical characteristics of the roads coming under its supervision. The position of copyist had also been abolished,

the value and importance of whose services as typewriter and stenographer, in facilitating the correspondence, should have been recognized. The reduction in the bookkeeper's salary caused an official, who had been connected with the Bureau since its organization, to seek employment elsewhere, which was easily secured and at an increased compensation. A firm believer in the doctrine that public expenditures should be limited to the necessities of the Government economically administered, I am also convinced that economy of the character herein alluded to is unwise. The act of Congress approved May 7, 1878, otherwise known as the "Thurman act," had for its object a governmental supervision of the Pacific railroads which had received bonds of the United States in aid of construction, to the end that final repayment by the companies of the amounts so advanced might be secured. This law is still upon the statute book. If it has not been found to justify the expectations of its framers, it is amendable; meanwhile, the necessary means for its enforcement should be furnished. The appropriation for traveling expenses and subsistence, made necessary by the requirement for an annual inspection of accounts and property, originally fixed at $2,000, was afterward increased to $3,000, and subsequently reduced, in different years, to $2,500, $2,000, and $1,600, respectively. For the fiscal year ending June 30, 1894, the sum of $500 was appropriated. It should be obvious that this amount is wholly inadequate. The balance of the appropriation for the year ended June 30, 1893, however, enabled me to authorize the railroad engineer, whose office was abolished on that date, to make an inspection of the bond-aided roads before June 30. The results of such inspection are embodied in the engineer's report. (Appendix A.)

CONDITION OF THE PROPERTIES.

A personal inspection of the properties of the Union and Central Pacific Railroad Companies was made by me in May and June of the current year and they were found to be in excellent physical condition. The books and accounts of the bond-aided roads have been thoroughly examined during the year by the bookkeeper of the Bureau and the actual amount found due the United States carefully ascertained. Full statements of the financial condition of the companies are contained in this report.

AMOUNTS FOUND DUE THE UNITED STATES FOR 1892.

The Union Pacific Railway Company, including the Kansas Division, shows an increase in net earnings over the previous year of $658,184.19. The amount found due the United States under the act of 1864 (Kansas Division) and the act of 1878 (Union Division) was $42,081.27 in excess of the previous year.

The net earnings of the Central Pacific Railroad Company for 1892 show a falling off of $570,019.89, as compared with 1891; the require-

ment for 1892, under the act of 1878, being $36,467.94 less than for 1891. This is due to the decreased earnings of the aided portion of the road.

By reason of an increase of $106,825.22 in the amount expended for new equipment, the net earnings of the Sioux City and Pacific Railroad Company were reduced to $26,385.32, which, being insufficient to pay the interest on the first mortgage bonds, the 5 per cent of net earnings, under the acts of 1862 and 1864, are not due the United States. (United States *vs.* Sioux City and Pacific Railroad Company, 99 U. S., 492.) One-half the amount of Government transportation for the year, however, viz, $14,407.03, is due the United States.

The Central Branch Union Pacific Railroad Company shows an increase in net earnings, over 1891, of $107,745.56, and a corresponding increase in the amount found due the United States, under the acts of 1862 and 1864, of $13,330.79.

CHARGES AGAINST THE COMPANIES REVIEWED.

The "criticisms, allegations, and complaints" against the companies, referred to by my predecessor in his annual report for 1890, are found to consist of charges which have been made the subject of investigation from time to time, notably by Congress immediately following the Credit Mobilier scandal, and more recently by the United States Pacific Railway Commission in 1887. Briefly summarized, the charges are:

(1) That the companies obtained possession of, say, 2,000 miles of railroad, without investing any money of their own, in the following manner: The aggregate of the Government subsidy to the Union Pacific Railroad Company was $27,226,512 and to the Central Pacific Railroad Company $27,855,680. In addition to this subsidy in bonds, each company received a grant of 12,800 acres of land per mile of road. By the act of 1864 each company was authorized to issue bonds to an amount equal to the Government subsidy, the lien of the Government being made subordinate and secured only by a second mortgage. The companies were then authorized, on the credit of the first mortgage, to borrow a sum equal to the amount of the Government loan; and finally they were authorized to issue and sell stock to the amount of $100,000,000.

(2) That if the affairs of the companies had been economically administered, the proceeds of the sale of Government bonds alone would have realized an amount sufficient to provide for the building and equipment of the entire line of road; but the cost of construction was unnecessarily increased in order that certain officials of the companies who, at the same time were members of the construction companies, might realize large profits. The nominal cost of construction, therefore, represented not only the actual and necessary expenditure, but a margin which, divided as profits among the members of the construction companies, enabled them to amass large fortunes.

(3) It is further held that as the Pacific railroads are the largest debtors to the Government of the United States, their liability, principal and interest, aggregating $115,348,287.73, their publicly confessed inability to meet their obligations at maturity, must result in increased taxation, through a readjustment of the public revenues.

(4) It is maintained that the present earnings of the bonded roads furnish no just criterion of their earning capacity, as they are in the hands of individuals interested in competing lines.

THE COMPANIES' DEFENSE.

On the part of the companies it is held:

(1) That the roads were built during a national crisis, under the most unfavorabl circumstances, when the cost of material and labor was at its maximum; not spadeful of earth having been turned under the act of 1862.

(2) That their construction was of incalculable benefit, resulting in the preservation of California to the Union, and an immense saving to the United States in the cost of military, naval, and postal transportation.

(3) In view of the advantages which accrued to the Government from the building of the roads, it is claimed that the United States would be the gainer if no further reimbursement were made for their construction. The liberality of the Dominion Government toward the Canadian Pacific Railway Company is cited in justification of this opinion.

(4) It is contended by the companies that the munificent grants of land which were made subsequently by the United States to competing lines—the Atlantic and Pacific and the Northern Pacific Railroad companies, for example—resulted in such a material reduction of rates, and consequent decrease in earnings, as to impair the ability of the companies to meet their obligations to the Government.

(5) The fact that for a distance of nearly 1,500 miles west of the one hundredth meridian in Nebraska there is very little land available for agriculture, the greater portion of the entire grant from the Missouri River to the Sacramento Valley consisting of arid deserts and stony mountains which, as they offer no inducements to settlers, are absolutely unsalable, will account for a lack of local traffic, on which all railroad enterprises rely for profit.

INADEQUACY OF THE THURMAN ACT.

The foregoing wide and radical differences of opinion on what is known as the Pacific Railroad question are found to exist. The debts of the bond-aided roads are steadily increasing under the operation of law, the percentage of net earnings due the United States, in accordance with the provisions of the Thurman act, being insufficient to meet the annual interest charge. The requirements of the law having been fully complied with by the companies, the failure to answer the purpose for which it was intended must be held to rest in the law itself. As previously stated, the reduced earnings of the roads, due to decreased traffic, have necessarily diminished the percentage of net earnings. It should be borne in mind that the estimated earnings of the Union and Central Pacific Railroad companies were based upon the business of one continuous line of road. Since their construction, however, five other transcontinental railroads have been built, viz: The Canadian Pacific Railroad, the Northern Pacific Railroad, the Great Northern Railway, the Atlantic and Pacific Railroad, the Southern Pacific Railroad. The completion and opening of these roads to traffic revolutionized the conditions which prevailed when the last spike in the Union and Central was driven by Governor Stanford, near Promontory, Utah, May 10, 1869.

RECOMMENDATIONS.

In view of the magnitude of the interests involved and of the fact that the funding bill (S. 751, Fifty-second Congress, first session), which was made the subject of a special report, and with sundry amendments recommended for adoption by my predecessor, does not meet with favor by certain officials of the Central Pacific Railroad Company I would recommend the appointment by the President of a commission with full power to settle the indebtedness of the bond-aided Pacific railroads to the Government, on terms which shall be honorable to the companies and just to the United States. The appointment of such a commission was urged by my predecessor and recommended by President Harrison, and in view of the many and complex questions involved in the final settlement of all differences between the Government and the subsidized roads, I regard it as of the utmost importance that such action should be taken. It would be difficult, if not impossible, for a satisfactory adjustment of all the grave questions which must necessarily be considered to be arrived at by so large a body as Congress, pressed as the members always are in the ordinary discharge of their public duties; nor is it probable that any agreement could be reached which would, while protecting the vast interests of the Government, be just and equitable to the railroad companies concerned. Some settlement must be made promptly, for a large portion of the indebtedness of the companies to the Government will mature in a short time, and as the companies are not in a condition to meet their liabilities, the only alternative which will be left to the Government will be to assume ownership of the roads, or to accept such terms as may be proposed by the officials of the companies.

As the Government holds only a second mortgage on these roads, in order to secure possession of them all prior liens would have to be paid and this would involve not only the enormous outlay of, say, $180,000,000, but would entail the necessity of their operation by the Government, an experiment which has invariably resulted disastrously in this country whenever tried by any State. If this plan is deemed impracticable, the only other alternative looking to the adjustment of all matters pertaining to the subsidized roads is an amicable and equitable settlement with the authorities of these roads, and this, as I have said, can, in my judgment, be best effected by the appointment of a commission with full power to settle all questions involved. The railroad officials express a desire to have a prompt, just, and final adjustment of all differences, and they declare their willingness to pay the Government all dues as fully and as speedily as they possibly can. If the Government can be secured from ultimate loss, the question of time in the payment is of little consequence.

Should the foregoing recommendation not receive favorable consideration by Congress, I recommend that section 4 of the act approved

May 7, 1878, otherwise known as the "Thurman act," be amended so as to embrace within its provisions all of the Pacific railroads which have received from the United States bonds in aid of construction. No reason is known why this should not be done, or why it was not done in the first instance, as it would have added a material sum to the amount found "due the United States;" especially from the Kansas Pacific Railroad (now the Union Pacific, Kansas Division).

I earnestly renew the following recommendation of my predecessor, which was first proposed by the auditor of railroad accounts in 1879, and for the reasons stated:

That the act of June 19, 1878, creating this Bureau be further amended by providing that the so-called bonded roads transmit all accounts for transportation services rendered the Government, including the carrying of the mails, through this Bureau to the proper accounting officers of the Treasury; and that all disallowances or differences in said accounts found by the accounting officers upon settlement be reported to this Bureau before final payment or allowance of the same; and that this Bureau report to the Treasury Department what changes, if any, are required in the payment or disposal of the moneys so found to be due the said companies.

It is important that there be *some* bureau of the Government in which can be found full information as to the accounts between the bonded railroads and the United States. Up to the present time there has been no such bureau. Out of the numerous acts affecting the roads in question there has grown much confusion. The Post-Office, War, Treasury, and Interior Departments each have extensive dealings with these roads. Bills for services rendered are sent for adjustment to many different accounting officers, each acting independently of the others.

There are now millions of dollars of unsettled bills awaiting final action in the Treasury Department. It is due to the railroad companies that all these accounts for services be promptly adjusted and that such sums as are legally their due be credited or paid to them.

It is to the interest of the Government to know the exact condition of its accounts with the railroad companies it has aided and whose obligations it holds. As accounts are rendered at present it would be a vexatious and almost impossible task to secure such information. Were all accounts rendered through this Bureau by the railroad companies, and the action taken by the accounting officers, reported here, all of which might be done with no increased expense the records of this Bureau could at all times give easy access to any information that might be desired by Congress, or any of the departments of the Government, in regard to the accounts and indebtedness of the bonded roads.

The Secretary strongly indorsed this recommendation in his last annual report. A bill providing for the amendment suggested was introduced in the Senate at its last session and, with trifling amendments, was unanimously passed.

ESTIMATES FOR 1894–'95.

Under section 2 of the act of June 19, 1878, the following official force was provided for:

An auditor, at a salary of	$5,000
One bookkeeper, at a salary of	2,400
One assistant bookkeeper, at a salary of	2,000
One clerk, at a salary of	1,400
One copyist, at a salary of	900

There was also an appropriation of $2,000 for traveling expenses. In the following year a railroad engineer was added, at a salary of

$2,000, which was subsequently increased to $2,500. Other changes in the appropriations were made from time to time. The salary of the auditor was reduced to $4,500, a clerk of class three was substituted for a clerk of class two, the traveling expenses were increased to $3,000, and an assistant messenger was provided for.

The estimates submitted by me for the fiscal year ending June 30, 1894, have been made as small as possible consistent with a proper performance of the functions of the office. They are as follows:

Commissioner	$4,500
One bookkeeper	2,000
One assistant bookkeeper	1,800
One clerk, class three, to act as private secretary to the Commissioner	1,600
One clerk of class one	1,200
One assistant messenger	720
Traveling expenses	1,000
Total	12,820

Preparation of the office correspondence, together with important and technical work in tabulating reports, render the services of an expert typewriter (who should also be a stenographer) and a careful and accurate accountant absolutely essential The first is estimated for as private secretary to the Commissioner and the latter as a clerk of class one.

The position of private secretary to the Commissioner has heretofore been filled by a clerk of class three. This position was abolished by the Fifty-second Congress and a clerk of class one substituted. The position of copyist was also abolished, which devolved the work of that position on the private secretary.

The approaching settlement of the indebtedness of the bond-aided Pacific railroads to the United States will impose additional and very responsible duties upon this Bureau, which will fall heavily upon the present limited force.

As the position of railroad engineer has been abolished by Congress his duties will devolve upon the Commissioner.

The estimate of $1,000 for traveling expenses is intended to provide for one annual trip of inspection by the Commissioner and his private secretary and one annual examination of the books and accounts by the bookkeepers. The expense of such trip averages $250 for each person, and $1,000 is as small a sum as should be allowed.

Personnel of the Bureau November 1, 1893.

Wade Hampton, Commissioner	$4,500
Francis E. Storm, bookkeeper	2,000
(Vacancy) assistant bookkeeper	1,800
Charles E. Thomas, clerk, assigned to duty as private secretary to the Commissioner	1,200
Miss Kate Schmidt, copyist, detailed for duty from Pension Office	900
Henry Braxton, assistant messenger	720

APPENDIXES AND TABLES.

The following appendixes and tables are annexed to this report:

Appendix A contains the report of the ex-engineer upon the physical characteristics of the bond-aided roads.

Appendix B contains the principal laws of Congress relating to both the bond-aided and land-grant railways.

Appendix C contains a syllabi of the decisions of the Supreme Court in cases affecting the bond-aided Pacific railroad companies and to which the United States are parties.

Appendix D contains the names and addresses of the Government directors of the Union Pacific Railway Company, appointed by the President.

Table No. 1 shows the amount of bonds issued in aid of Pacific railroads, the interest paid thereon by the United States, and the amounts repaid by the several companies to June 30, 1893.

Table No. 2 shows the condition of the sinking funds on June 30, 1893.

Table No. 3 shows the amounts found due the United States by the Union Pacific Railway Company, under the provisions of the Thurman act, from July 1, 1878, to December 31, 1892.

Table No. 4 shows the amounts found due the United States by the Central Pacific Railroad Company, under the provisions of the Thurman act, from July 1, 1878, to December 31, 1892.

Table No. 5 shows the grants of land by Congress to railroad companies coming under the provisions of the act of June 19, 1878; the number of acres patented to and forfeited by the companies, and the number of acres restored to the public domain.

Table No. 6, shows the amount of bonds issued to the several Pacific railroad companies and to whom delivered, with the dates of issue, maturity, beginning of interest, and the number of miles aided.

Poor's Manual of Railroads has been the principal authority consulted in the preparation of a preliminary history of the railroad companies coming under the jurisdiction of the Bureau and considered in this report.

ATLANTIC AND PACIFIC RAILROAD COMPANY.

(ATCHISON, TOPEKA AND SANTA FE RAILROAD COMPANY.)

This company was chartered by the Government of the United States to construct a railroad from the Mississippi River to the Pacific Ocean on the thirty-fifth parallel.

The road passed under the control of the Atchison, Topeka and Santa Fe Railroad Company by the latter's purchase of the capital stock of the St. Louis and San Francisco Railway Company. For the purpose of securing an extension of its line from the Rio Grande to the Pacific Ocean, the Atchison entered into a contract with the St. Louis and San Francisco, whereby the latter transferred to the former, without cost to it, one-half of the share capital of the Atlantic and Pacific, up to that time wholly owned by the St. Louis and San Francisco.

By the act of Congress approved July 27, 1866, the Atlantic and Pacific company received from the United States a grant of 42,000,000 acres of land. Springfield, Mo., via Canadian River, Albuquerque, the

Aqua Fria and Colorado Rivers, and the Pacific Ocean, are the land-grant termini.

The records of the General Land Office show that to June 30, 1893, there had been patented to the company—

	Acres.
By the United States	380,629.21
Through the State of Missouri	966,776.70
Through the Territory of Arizona	373,099.38
Through the Territory of New Mexico	312,386.73
Total	2,032,892.02

The records of the General Land Office also show that by the act of July 6, 1886, 10,795,480 acres located in California and New Mexico had been forfeited; and that 3,290,000 acres of railroad indemnity lands located in Arkansas, Arizona, California, and New Mexico had been restored to the public domain; and that under date of July 13, 1886, by decision of the Commissioner, affirmed by the Secretary of the Interior, 1,500,000 acres of land located in California had also been restored.

The report of the company shows that the total number of acres received by United States patent was 23,037.36, of which, 21,456.56 have been sold. The total cash receipts from all sales of land to June 30, 1893, amounted to $3,923,951.05, and there remained outstanding, on account of time sales, the sum of $267,618.82. The receipts of the land department during the year amounted to $105,276.71, and the expenses to $42,726.67.

The main line of this road extends from Albuquerque, N. Mex., to Mojave, Cal., and from Seneca, Mo., to Sapulpa, Ind. T., a distance of 917.91 miles. The company also operates under trackage rights 12.69 miles. The length of branch lines is 12.64 miles; total length of road, 946.84 miles. The length of sidings on the main line is 85.30 miles. Total length of track, 1,032.14 miles.

The additions and betterments to railway during the year amounted to $108,349.10, which were charged to improvement account; the additions and betterments to rolling stock, charged to equipment account, amounted to $193,819.

The equipment consists of 22 passenger, 21 freight, and 2 switching locomotives, all of which are equipped with Westinghouse brakes. In the passenger service there are 8 first-class, 6 baggage, mail, and express, and 2 officers' cars; total, 16, all equipped with Westinghouse brakes and Miller platforms. In the freight service there are 164 box, 70 stock, 231 coal, 329 flat, and 40 caboose cars; total, 834, 88 of which are equipped with Westinghouse brakes.

In the road and miscellaneous service there are 5 station, 2 derrick, 2 snow-flanger, and 94 water and oil-tank cars.

The express business of this company is transacted by Wells, Fargo & Co., under contract.

The Pullman Palace Car Company runs its cars over the railroad company's lines on a mileage basis.

The carrying of through passengers and freight is prorated with the Southern Pacific, the Atchison, Topeka and Santa Fe, the California Southern, and the St. Louis and San Francisco Railway companies.

The following statements show the financial condition of the company on June 30, 1893:

ASSETS.

Cost of road, fixtures and equipment	$121,348,297.00	
Land contracts, land cash, etc	238,567.23	
Fuel, material, and stores on hand	156,192.60	
Cash on hand	522,744.60	
Miscellaneous investments	105,000.00	
Bills receivable	103,449.63	
Due from other companies on account of traffic	521,890.00	
Due from the United States	37,903.20	
Total		$123,034,044.26

LIABILITIES.

First-mortgage bonds	18,794,000.00	
Interest on same, due and accrued	381,310.00	
Other funded debt	20,119,629.00	
Interest on same, accrued, not due	219,066.50	
Accounts payable	3,068,655.10	
Bills payable	12,505,529.31	
Pay rolls and vouchers	582,740.12	
Due other companies on account of traffic	5,246.69	
Called bonds	100,000.00	
Total debt		55,776,176.72
Capital stock		79,760,300,00
Total stock and debt		135,536,476.72
Deficit		12,502,432.46

Revenue and expenditures for the year ended June 30, 1893.

REVENUE.

Earnings	$3,564,045.49	
Receipts of the land department	105,276.71	
Total		$3,669,322.20

EXPENDITURES.

Operating expenses	$3,274,238.18	
Interest on first mortgage bonds	751,760.00	
Interest on other funded debt	330,000.00	
Interest on other debt	1,125,375.44	
New construction	108,349.10	
New equipment	193,819.00	
Expenses of the land department	82,060.21	
Total		5,865,601.93
Deficit		2,196,279.73

Comparative statement of the earnings and expenses of the Atlantic and Pacific Railroad Company.

	Year ended—		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$814,741.14	$761,624.92	$53,116.22	.....
Freight	2,397,943.45	2,333,856.08	64,087.37	.....
Mail	126,849.01	125,970.01	879.00	.....
Express	152,049.98	129,878.53	22,171.45	.....
Miscellaneous	72,461.91	10,071.18	62,390.73	.....
Total	3,564,045.49	3,361,400.72	202,644.77	.....
EXPENSES.				
Maintenance of way and structures	673,331.96	642,791.23	30,540.73	.....
Maintenance of equipment	543,795.29	457,570.79	86,224.50	.....
Conducting transportation	1,702,457.56	1,531,999.60	170,457.96	.....
General expenses and taxes	354,653.37	363,389.65	.....	$8,736.28
Total	3,274,238.18	2,995,751.27	278,486.91	.....
Net earnings	289,807.31	365,649.45	.....	75,842.14
Average miles operated	946.84	946.84	.....	.....
Earnings per mile	$3,764.14	$3,550.12	$214.02	.....
Expenses per mile	3,458.06	3,163.94	294.12	.....
Net earnings per mile	306.08	386.18	.....	80.10
Percentage of expenses to earnings	91.87	89.12	2.75	.....

ATCHISON, TOPEKA AND SANTA FE RAILROAD COMPANY.

This company was chartered February 11, 1859, as the Atchison and Topeka Railroad Company and changed its name to the present title March 3, 1863.

The original line of road extended from Atchison, Kans., to the west line of Kansas, a distance of 470.58 miles.

By the act of Congress approved March 3, 1863, the company received from the United States, through the State of Kansas, a grant of 3,000,000 acres of land. The records of the General Land Office show that to June 30, 1893, there had been patented to the company 2,934,522.86 acres. By the same act a grant of 800,000 acres was made to the Leavenworth, Lawrence and Galveston Railroad Company (now the Atchison, Topeka and Santa Fe). The records of the General Land Office show that 69,104.95 acres had been patented to the company to June 30, 1893.

The company's report shows that to June 30, 1893, there had been received by United States patent 2,934,659.68, and by cancellation of contracts 451,764.42 acres; a total of 3,386,424.10 acres of land. The report also shows that, to the same period, there had been disposed of for cash and on time contracts 3,356,449.06, and reclaimed by the United States 6,641.07; a total of 3,363,090.13 acres. The total cash receipts from all sales to the above date amounted to $12,048,625.77, and there remained outstanding on account of time sales the sum of $55,894.04,

principal and interest. The receipts from the land department during the year were $27,683.87 and the expenses $12,983.67.

The main line of road extends from Chicago, Ill., to the State lines of New Mexico and Texas, a distance of 1,595.10 miles. There are also 2,987.02 miles of branch lines and 864.50 miles of sidings and double track; a total of 5,446.62 miles of track, of which 4,054.75 miles are laid with steel rails.

The additions and betterments to railway during the year amounted to $1,327,425.17, and to rolling stock $341,383.80. During the year there were laid 10,373 tons of steel rails, at a cost of $321,579.73; and 1,090,275 ties placed in the track at a cost of $386,170.97.

At the end of the year the equipment consisted of 348 passenger, 384 freight, and 82 switching locomotives, 751 of which were equipped with automatic brakes.

In the passenger service there were 2 parlor, 16 dining, 69 chair, 207 first class, 47 second class, 9 observation, 18 mail, 62 baggage, 14 express, 116 combination, and 8 officers' cars; total, 568; all of which were equipped with Westinghouse brakes, and 562 with Miller platforms.

In the freight service there were 12,005 box, 3,347 stock, 8,185 coal, 1,774 flat, 200 combination, 561 refrigerator, 608 fruit, and 384 caboose cars; a total of 27,064 cars, 21,260 of which were equipped with Westinghouse brakes.

The equipment for the road and miscellaneous service consisted of 70 dump, 157 hand, and 138 push cars; also 1 derrick and 2 snowplows.

The assessed valuation of roadway, bridges, track, buildings, etc., for taxation was $31,260,156, an average of $6,822.20 per mile; and of rolling stock and equipment the assessed valuation was $6,425,322.

The express business on the company's lines is transacted by Wells, Fargo & Co. under contract. The Pullman Palace Car Company runs its cars on the line on a mileage basis.

Use of tracks and terminal facilities have been granted to the following companies under lease:

Kansas City Belt Railway.
Toledo, Peoria and Western Railway.
Chicago and Western Indiana Railway.
Chicago and Grand Trunk Railway.
Fremont, Elkhorn and Missouri Valley Railroad.

All telegraph lines and appliances along the company's lines are owned jointly with the Western Union Telegraph Company, which transacts the business pertaining thereto.

Sundry contracts and agreements for the transportation of passengers and freight, the ticketing of passengers, the interchange of traffic, and for mutual harmony and protection have been entered into as follows with—

The Southern Pacific Company.
The St. Louis and San Francisco Railway Company.

The Colorado Midland Railway Company.
The New York and Texas Steamship Company.
The Transcontinental Association.
The Atlantic and Pacific Railroad Company.
The Trans-Mississippi Freight and Passenger Association.
The Interstate Commerce Railway Association.
The Illinois State Freight Association.
The Western Freight Association.
The Western States Passenger Association.

The following statements show the financial condition of the company on June 30, 1893:

LIABILITIES.

Road fixtures and equipment	$222,641,354.35	
Property in auxiliary roads represented by bonds and stocks pledged under general mortgage indenture	62,291,224.17	
Real estate other than road	1,853,424.05	
Improvements, auxiliary companies	3,230,605.73	
Fuel, material, and stores on hand	979,106.57	
Cash on hand	3,894,445.45	
Company's bonds owned by company	2,092,000.86	
Other stocks and bonds	39,521,665.62	
Miscellaneous investments	11,428,238.39	
Capital stock in treasury for specific purposes	176,512.50	
Sinking fund and interest, account equipment trust bonds	306,250.00	
Bills receivable and demand loans	3,296,898.71	
Accounts receivable	4,954,400.09	
Due from other companies on account of traffic	381,090.79	
Bonds and stocks of consolidated companies pledged under general mortgage	164,490,922.18	
Securities deliverable under plan of reorganization	1,872,056.91	
Due from United States	194,389.44	
Bad debts, or suspense accounts	606,615.04	
Total		$524,211,200.85

ASSETS.

General mortgage bonds	129,734,812.00	
Interest on same, due and accrued	2,805,853.79	
Other funded debt	95,698,816.00	
Interest on same, due and unpaid	250,448,95	
Interest on same, accrued, not due	649,830.00	
Dividends unpaid	1,006.75	
Bills payable	6,809,249.71	
Accounts payable	1,272,893.30	
Pay rolls and vouchers	2,672,662.87	
Due other companies on account of traffic	346,335.21	
Called bonds	1,593,330.00	
Accrued obligations not yet due	572,649.19	
Subscriptions, account of circular 63, bonds	1,600.00	
Trustee's certificates representing bonds deliverable under plan of reorganization	54,010.79	

Adjustment account, St. Louis and San Francisco Railway Co., first preferred stock	$5,000,000.00	
Stocks and bonds of consolidated companies in trust	167,077,900.00	
Total debt		$414,541,398.56
Capital stock		102,000,000.00
Total stock and debt		516,541,398.56
Surplus		7,669,802.29

Revenue and expenditures for the year ended June 30, 1893.

REVENUE.

Earnings	$27,786,561.06	
Dividends on stocks of other companies	274,800.00	
Interest on bonds of other companies	400,630.00	
Profits on miscellaneous investments	37,853.40	
Receipts of the land department	27,723.37	
Net revenue from separately operated roads forming part of the system	1,413,972.68	
Total		$29,941,540.51

EXPENDITURES.

Operating expenses	18,554,952.16	
Interest on general mortgage bonds	5,121,908.00	
Interest on other funded debt	2,649,736.38	
Interest on other debt	70,819.23	
Contract with St. Louis and San Francisco Rwy. Co.	342,164.28	
Losses on miscellaneous investments	43,972.58	
Expenses of the land department	12,983.67	
Total		26,796,536.30
Surplus		3,145,004.21

Comparative statement of the earnings and expenses of the Atchison, Topeka and Santa Fe Railroad Company.

	Year ended—		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$5,865,297.57	$4,991,652.07	$873,645.50	.....
Freight	20,010,818.89	19,114,977.86	895,841.03	.....
Mail	670,865.18	671,569.85	.....	$704.67
Express	743,976.15	580,121.62	163,854.53	.....
Miscellaneous	495,603.27	435,282.96	60,320.31	.....
Total	27,786,561.06	25,793,604.36	1,992,956.70	.....
EXPENSES.				
Maintenance of way and structures	3,396,924.63	3,224,666.68	172,257.95	.....
Maintenance of equipment	3,042,259.52	2,879,208.65	163,050.87	.....
Conducting transportation	8,954,461.03	8,109,593.35	844,867.68	.....
General expenses and taxes	3,161,306.98	3,026,474.53	134,832.45	.....
Total	18,554,952.16	17,239,943.21	1,315,008.95	.....
Net earnings	9,231,608.90	8,553,661.15	677,947.75	.....
Average miles operated	4,582.12	4,582.12	.....	.....
Earnings per mile	6,064.12	5,629.18	434.94	.....
Expenses per mile	4,049.42	3,762.43	286.99	.....
Net earnings per mile	2,014.70	1,866.75	147.95	.....
Percentage of expenses to earnings	66.77	66.79	.....	.02

CENTRAL PACIFIC RAILROAD COMPANY.

(SOUTHERN PACIFIC COMPANY.)

This company includes the Western Pacific Railway Company, with which it was consolidated November 2, 1869; the California and Oregon, the San Francisco, Oakland and Alameda, and the San Joaquin Valley Railroad companies, the consolidation with the latter three dating from August 22, 1870.

The Central and Western Pacific Railroad companies of California were chartered by Congress July 1, 1862. The subsidy in Government bonds was at the rate of $16,000, $32,000, and $48,000 per mile, the first-named sum being the estimated cost of construction to the mountains, the second between the mountains, and the third over the mountains.

The subsidy bonds issued by the United States to aid in the construction of these two roads amounted to $27,885,680, and the interest thereon to June 30, 1893, to $41,834,212.21. There had been repaid by the company, in transportation services, cash, and interest on sinking-fund investments, the sum of $13,664,063.21, making a net liability to the Government on that date of $56,025,829. The excess of interest paid by the United States over all credits amounted to $28,170,149. The amount found due the United States by the company under the acts of 1862, 1864, and 1878 for the year ended December 31, 1892, was $577,048.33, a reduction of $36,467.94 as compared with the previous year.

The main line of this road extends from Oakland Wharf, California, to Ogden, Utah, with branches from Roseville Junction to the Oregon State line, Lathrop to Goshen, and from Niles northward to Oakland and southward to San Jose, Cal. The aided portion of the line extends from Ogden to Sacramento, thence, via Niles, to San Jose, a distance of 860.66 miles, and is subject to the requirements of law with respect to the payment of a percentage of its net earnings to the United States. (See history of Union Pacific Railway.) The total length of road, including branches, is 1,359.65 miles, and the total length of track, including sidings, 1,685.43 miles.

The company's lines are leased to the Southern Pacific Company for ninety-nine years from April 1, 1885; lease modified January 1, 1888. The lessee receives the earnings from the property operated, and pays therefrom all expenses of the lessor, including land department expenses, cost of betterments, interest on bonded and floating debt, excepting its debt to the United States, sinking-fund requirements and requirements under the Pacific Railway acts of 1862 and 1864, and under the Thurman act of 1878. The net profit remaining is payable to the lessor up to a maximum sum of $4,080,000, and the lessee guarantees a minimum annual payment of such net profit of $1,360,000.

By the acts approved July 1, 1862; July 2, 1864, and July 25, 1866, the companies which form the Central Pacific Railroad Company received from the United States grants of land in aid of construction as follows:

	Acres.
Central Pacific Railroad Company	8,000,000
Western Pacific Railroad Company	1,000,000
Oregon Branch Central Pacific Railroad (California and Oregon)	3,500,000
Total	12,500,000

Ogden, Utah, and Sacramento, Cal.; Brighton, Cal., and Niles, Cal.; Niles, Cal., and San Jose, Cal.; junction with Central Pacific Railroad and the southern boundary of Oregon, are the land-grant termini.

The records of the General Land Office show that to June 30, 1893, there had been patented by the United States to the—

	Acres.
Central Pacific Railroad Company, direct	1,040,210.59
Central Pacific Railroad Company, through the State of California	471,616.22
Central Pacific Railroad Company, through the Territory of Utah	75,382.16
Western Pacific Railroad Company, direct	449,934.72
Western Pacific Railroad Company, State of California	467,362.28
Oregon Branch Central Pacific Railroad, direct	1,362,433.61
Oregon Branch Central Pacific Railroad, State of California	187,275.55
Total	4,054,215.13

The report of the company shows that to June 30, 1893, there had been acquired by United States patent to the—

	Acres.
Central Pacific Railroad Company	1,115,092.75
California and Oregon Railroad Company	1,549,949.30
Total	2,665,042.05

That there had been disposed of—

	Acres.
For cash	718,735.18
On time contracts and agreements	1,999,088.41
Total	2,717,823.59
Less acreage surrendered	58,858.82
Net	2,658,964.77

The report of the company also shows that the total cash receipts from all sales of land to date amount to $9,572,286.20. The receipts during the year were $168,012.60 and the expenses $55,687.99. There remained outstanding on account of time sales—

Principal	$1,049,992.88
Interest	5,263.10
Total	1,055,255.98

The properties of the company from Ogden, Utah, to San Jose, Cal., including roadbed, track, bridges, buildings, shops, etc., were inspected by the engineer of this Bureau in May last. His report thereon is contained in Appendix A.

At the end of the year the equipment consisted of 288 passenger and 22 switching locomotives, all equipped with Westinghouse brakes. In the passenger service there were 3 dining, 30 sleeping, 43 second-class sleeping, 160 first-class, 25 second-class, 15 baggage, mail, and express, 13 mail, 27 baggage, 7 express, 17 combination and 7 officers' cars; total, 347; all equipped with Westinghouse brakes and Miller platforms. In the freight service, there were 2,002 box, 45 furniture, 240 coal, 1,743 flat, 1,601 combination, 18 refrigerator, 443 fruit and 116 caboose cars; total, 6,208. In the road and miscellaneous service, there were 8 derricks, 33 station, 79 dump, and 19 water cars, 4 snowplow tenders, 28 snowplows, and 9 wrecking-car tenders.

The additions and betterments to railway during the year, consisting of passenger and freight buildings, warehouses, hotels, furniture, etc., amounted to $20,441.42, all of which was charged to income and paid by the lessee company. The additions and betterments to rolling stock during the same period, amounting to $1,480,303.84, and consisting of 72 locomotives, 1 first-class passenger, 21 furniture, 1,126 box, 185 flat and 326 fruit cars, 1 steam shovel, and 1 snowplow tender, were charged to equipment and paid in like manner as the additions and betterments to railway. There were also added during the year 11,458 tons of steel rails, at a cost of $572,900, and 510,038 new pine and cedar cross-ties were placed in the track, at a cost of $251,646.57, the average number per mile being 2,728.

There were 921.70 miles of single-line fencing, and 32.76 miles of snow sheds.

The following statements show the financial condition of the company on June 30, 1893, and the amount found due the United States for the year ending December 31, 1892, under the acts of 1862, 1864, and 1878. Other statistics pertaining to the company will be found in the tables and appendixes attached to this report.

Comparative statement of the funded debt of the Central Pacific Railroad Company, June 30, 1893 and 1892.

Character of bonds.	Term of bonds.		Rate of interest.	Amount of bonds outstanding.		Decrease.	Lien.
	Years.	Date of maturity.		June 30, 1893.	June 30, 1892.		
Central Pacific Railroad Company.			*Per cent.*				
First mortgage; series A	30	1895	6	$2,995,000	$2,995,000	.....	Road and franchise, Sacramento to State line.
B	30	1896	6	1,000,000	1,000,000	.....	Do.
C	30	1896	6	1,000,000	1,000,000	.....	Do.
D	30	1896	6	1,383,000	1,383,000	.....	Do.
E	30	1897	6	3,997,000	3,997,000	.....	Road and franchise, California State line to 5 miles west of Ogden.
F	30	1898	6	3,999,000	3,999,000	.....	Do.
G	30	1898	6	3,999,000	3,999,000	.....	Do.
H	30	1898	6	3,999,000	3,999,000	.....	Do.
I	30	1898	6	3,511,000	3,511,000	.....	Do.
United States subsidy, second mortgage	30	1895–1898	6	25,885,120	25,885,120	.....	Road and franchise, Sacramento to 5 miles west of Ogden.
First mortgage, series A, California and Oregon division extended.	30	1918	5	5,982,000	5,982,000	.....	Road and franchise Roseville Junction to Oregon State line.
First mortgage, series B, California and Oregon division.	20	1892	6	6,000	41,000	35,000	Do.
First mortgage, series B, California and Oregon division extended.	26	1918	5	4,358,000	4,358,000	.....	Do.
Land grant bonds extended	10	1900	5	2,908,000	3,550,000	642,000	First mortgage Central Pacific and California and Oregon lands.
Fifty-year bonds	50	1936	6	56,000	56,000	.....	Lands granted by United States and all other property except aided.
Fifty-year bonds	50	1939	5	11,000,000	11,000,000	.....	Lands granted and all other property.
Western Pacific Railroad Company.							
Old issue	30	1895	6	111,000	111,000	.....	Road and franchise, Sacramento to San Jose.
First mortgage, series A	30	1899	6	1,859,000	1,859,000	.....	Do.
B	30	1899	6	765,000	765,000	.....	Road and franchise, Niles to Oakland.
United States subsidy, second mortgage	30	1895–1898	6	1,970,560	1,970,560	.....	Road and franchise, Sacramento to San Jose.
San Joaquin Valley Railroad Company.							
First mortgage	30	1900	6	6,080,000	6,080,000	.....	Road and franchise, Lathrop to Goshen.
Total	.....	.....	.....	86,863,680	87,540,680	677,000	

Revenue and expenditures of the Central Pacific Railroad Company for the year ending June 30, 1893.

REVENUE.

Earnings (guaranteed rental, 1892)		$1,360,000.00
Land department, sales, etc., 1892		121,148.01
Interest on notes held by trustees land mortgage, 1892		80,166.67
Sinking fund requirements paid by Southern Pacific Company, 1892		185,000.00
Interest on sinking funds of company		361,076.29
United States requirement for 1892; paid by Southern Pacific Company		577,048.33
Miscellaneous; dividends on stock owned, etc		22,872.45
Total		$2,707,311.75

EXPENDITURES.

Operating expenses	(*)	
Interest on first-mortgage bonds	(*)	
Interest on other funded debt	(*)	
Interest on other debt	(*)	
New construction	(*)	
New equipment	(*)	
Expenses of the land department	(*)	
Sinking fund requirements of the company	546,076.29	
United States sinking fund requirement	577,048.33	
Land receipts and interest applicable to redemption of land bonds	201.314.68	
Expenses of operations prior to lease	4,040.00	
Dividends Nos. 27 and 28, August 1, 1892, and February 1, 1893	1,345,510.00	
Proportion of readjustment account locomotive renewals, 1885 to 1892	57,287.30	
Total		2,731,276.60
Deficit		23,964.85

* Payable by lessee and charged in income account.

Comparative statement of the financial condition of the Central Pacific Railroad Company June 30, 1893 and 1892.

	June 30, 1893.	June 30, 1892.	Difference.	
			Increase.	Decrease.
LIABILITIES.				
First mortgage bonds	$27,853,000.00	$27,853,000.00	.....	.....
United States subsidy bonds	27,855,680.00	27,855,680.00	.....	.....
Interest on same paid by United States	41,834,212.21	40,162,871.41	$1,671,340.80	.....
Other funded debt	31,155 000.00	31,832,000.00	.....	$677,000.00
Dividends unpaid	66,475.00	65.021.00	1,454.00	.....
Accounts payable—pay-rolls and vouchers	256,136.22	257,141.00	.....	1,004.78
Trustees land-grant mortgage	465,904.64	401,551.02	64,353.62	.....
Sinking funds uninvested	1,320,101.43	790,747.37	529,354.06	.....
Bills payable	1,500,000.00	2,000,000.00	.....	500,000.00
Total debt	132,306,509.50	131,218,011.80	1,088,497.70	.....
Capital stock	68,000,000.00	68,000,000.00	.....	.....
Total stock and debt	200,306,509.50	199,218,011.80	1,088,497.70	.....
ASSETS.				
Cost of road, fixtures, and equipment	170,799,030.67	169,318,726.83	1,480,303.84	.....
Land contracts, etc	1,049,992.88	1,122,202.47	.....	72,209.59
Cash on hand	975,829.13	295,835.80	679,993.33	.....
Company stock owned by company	724,500.00	724,500.00	.....	.....
Other stocks and bonds owned by company	786,329.22	832,529.22	.....	46,200.00
Miscellaneous investments	19,945.82	19,869.32	76.50	.....
Sinking funds in hands of trustees	10,131,965.42	10,026,459.19	105,506.23	.....
Bills and accounts receivable	1,971,635.08	4,015,616.70	.....	2,043,981.62
United States transportation and sinking fund accounts	13,086,783.27	12,509,734.94	577,048.33	.....
Due from the United States in cash	1,068,161.67	1,068,161.67	.....	.....
Total assets	200,614,173.16	199,933,636.14	680,537.02	.....
Surplus	307,663.66	715,624.34	.....	407,960.68

NOTE.—Under "liabilities" in above statement is included the item of interest on United States subsidy bonds paid by the United States to June 30, 1893, $41,834,212.21. This represents the amount of interest accrued to date on the subsidy bonds and payable by the Government to the bondholders, but it is not due from the company until the maturity of the bonds, except so far as paid under the terms of the Thurman act, and so is not entered currently on the books of the company.

In addition to the "assets" shown above, the company owns the lands granted by the United States to aid in the construction of the road, and which now remain unsold. The value of these lands cannot now be closely determined or satisfactorily estimated.

The company claims a credit in its general balance sheet, of $14,154,944.94, for transportation services rendered and cash payments to the United States; but the following statement, compiled from reports furnished this office by the Treasury Department, of settled accounts, cash payments, and interest on sinking-fund investments, to June 30, 1893, shows a difference on that date of $490,881.73, as follows:

Credits claimed by the company			$14,154,944.94
Bond and interest account:			
Transportation	$6,822,474.51		
Cash	658,283.26		
		$7,480,757.77	
Sinking-fund account:			
Transportation	3,882,156.24		
Interest	1,667,156.72		
Cash	633,992.48		
		6,183,305.44	
			13,664,063.21
Difference			490,881.73

Statement of the United States requirement under the act of May 7, 1878, for the year ending December 31, 1892.

EARNINGS.

United States:		
Passenger	$14,232.27	
Freight	45,918.43	
Mail	439,452.86	
Total		$499,603.56
Commercial:		
Passenger	2,441,304.27	
Freight	5,998,941.50	
Express	100,407.45	
Miscellaneous	83,745.46	
Total		8,624,398.68
Gross earnings		9,124,002.24

EXPENSES.

Maintenance of way and structures	1,226,021.37	
Maintenance of equipment	900,359.45	
Conducting transportation	2,892,402.86	
General expenses and taxes	885,143.22	
Total operating expenses	5,903,926.90	
Interest paid on first-mortgage bonds	1,671,180.00	
Total expenses under the act of May 7, 1878		7,575,106.90
Net earnings		1,548,895.34

(Twenty-five per cent of net earnings, $387,223.84.)

DUE THE UNITED STATES.

One-half Government transportation, as above	249,801.78	
Five per cent of net earnings	77,444.77	
To credit of bond and interest account		327,246.55
One-half Government transportation, as above, to credit of sinking fund account		249,801.78
Total requirement for the year		577,048.33

Comparative statement of the earnings and expenses of the Central Pacific Railroad Company.

	Year ended—		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$4,921,838.01	$5,212 992.72	.....	$291,154.71
Freight	8,554,724.85	9,505,532.24	.....	950,807.39
Mail	553,814.56	551,069.38	$2,745.18	.....
Express	188,637.51	193,994.51	.....	5,357.00
Miscellaneous	351,590.21	290,863.98	60,726.23	.....
Total	14,570,605.14	15,754,452.83	.....	1,183,847.69
EXPENSES.				
Maintenance of way and structure	2,228,750.50	2,022,647.92	206,102.58	.....
Maintenance of equipment	1,395,333.11	1,448,043.80	.....	52,710.69
Conducting transportation	4,737,827.67	4,915,999.95	.....	178,172.28
General expenses and taxes	1,522,463.20	1,515,980.24	6,482.96	.....
Total	9,884,374.48	9,902,671.91	.....	18,297.43
Net earnings	4,686,230.66	5,851,780.92	.....	1,165,550.26
Average miles operated	1,359.65	1,360.28	.....	.63
Earnings per mile	10.716.43	11,581.76	.....	865.33
Expenses per mile	7,269.79	7,279.87	.....	10.08
Net earnings per mile	3,446.64	4,301.89	.....	855.25
Percentage of expenses to earnings	67.83	62.92	4.91	.....

CENTRAL BRANCH UNION PACIFIC RAILROAD COMPANY.

(MISSOURI PACIFIC RAILWAY COMPANY.)

This company was organized February 11, 1859, as the Atchison and Pike's Peak Railroad Company, and changed its name January 1, 1867. It was included in the acts of 1862 and 1864, incorporating the Union Pacific Railroad Company, being provided for as one of the branches.

The road extends from Atchison to Waterville, Kans., a distance of 100 miles. The Atchison, Colorado and Pacific Railroad, 254.79 miles, and the Atchison, Jewell County and Western Railroad, 33.40 miles, are also leased by this company, making a total of 388.19 miles owned and leased. The capital stock of the company is $1,000,000, of which $858,000 is owned by the Union Pacific Railway Company. The road is operated by the Missouri Pacific Railway Company under a twenty-five-year lease from September 30, 1885, the net earnings going to the Union Pacific as rental.

Subsidy bonds were issued by the United States to aid in the construction of this road between Atchison and Waterville, Kans., to the amount of $1,600,000. The interest paid thereon to June 30, 1893, amounted to $2,509,808.26. There had been repaid by the company, in transportation services and cash, the sum of $568,191.56, leaving a liability to the Government on that date of $3,541,616.70. The excess of interest paid by the United States over all credits amounted to $1,941,616.70.

By the acts of Congress approved July 1, 1862, and July 2, 1864, the company received from the United States 781,944.83 acres of land. The records of the General Land Office show that to June 30, 1893, there had been patented to the company 218,250.08 acres.

The company makes no report of the operations of its land department.

The properties of the company, including roadbed, track, bridges, buildings, shops, etc., were inspected by the engineer of this bureau in June last. His report thereon is contained in Appendix A.

The additions and betterments to railway and rolling stock are effected through expense accounts, no improvement account being kept.

During the year, 159 tons of new steel rails were laid at a cost of $5,783.50, and 44,798 oak cross-ties placed in the track at a cost of $18,641.34.

The equipment consists of 17 passenger, 11 freight, and 6 switching locomotives, 19 of which are equipped with Westinghouse, and 4 with American brakes.

In the passenger service, there are 9 first-class, 1 second class, 4 baggage, mail, and express, 9 combination, and 1 officers' cars; a total of 24.

In the freight service, there are 307 box, 82 stock, 45 coal, 44 flat, and 19 caboose cars; a total of 497.

In road-repair and miscellaneous service, there are 3 dump, 1 boarding, 4 wrecking, 80 hand, and 77 push cars.

The express business over the company's lines is transacted by the Pacific Express Company, under a contract dated May 1, 1886, by which the railroad company receives a percentage of the gross earnings.

The telegraph business is transacted by the Western Union Company.

The following statements show the financial condition of the company on June 30, 1893; the amount found due the United States for the year ended December 31, 1892, under the acts of 1862 and 1864; and the earnings and expenses for the fiscal year:

LIABILITIES.

First mortgage bonds	$2,230,000.00	
Interest on same, due and accrued	2,960.00	
Interest on same, accrued, not due	23,350.00	
United States subsidy bonds	1,600,000,00	
Interest on same, paid by United States	2,509,808.26	
Accounts payable	1,207,676.10	
Total		$7,573,794.36
Capital stock		1,000,000.00
Total stock and debt		8,573,794.36

ASSETS.

Road, fixtures and equipment	$4,001,299.76	
Land contracts, land cash, etc	4,495.23	
Stocks and bonds owned by company	9,000.00	
Accounts receivable	8,696.09	
Repayments to United States in transportation services and cash	579,989.50	
Total assets		$4,603,480.58
Deficit		3,970,313.78

Revenue and expenditures for the year ended June 30, 1893.

REVENUE.

Earnings	$570,801.52	
Interest and income from miscellaneous investments	7,382.04	
Receipts of the land department	540.12	
Total		$578,723.68

EXPENDITURES.

Operating expenses	$347,356.86	
Taxes	24,142.25	
		$371,499.11
Interest on first-mortgage bonds	140,100.00	
Losses on leased lines	185,618.18	
Expenses of the land department	176.75	
United States requirements	17,906.20	
Profit and loss	559.83	
Total		715,860.07
Deficit		137,136.39

Statement of amount due the United States by the Central Branch Union Pacific Railroad Company, under the acts of 1862 and 1864, for the year ended December 31, 1892.

EARNINGS.

United States:		
Passenger	$19.48	
Freight	5.24	
Mail	15,862.28	
		$15,887.00
Commercial:		
Passenger	73,348.95	
Freight	507,069.87	
Express	4,829.93	
Miscellaneous	8,373.05	
		593,621.80
Total earnings		609,508.80

EXPENSES.

Maintenance of way and structures	$75,344.29	
Maintenance of equipment	35,907.86	
Conducting transportation	197,126.78	
General expenses	33,644.79	
Taxes	23,752.75	
Total operating expenses		$365,776.47
Net earnings		243,732.33
Five per cent of net earnings		12,186.62

DUE THE UNITED STATES.

One-half Government transportation, as above	7,943.50	
Five per cent of net earnings	12,186.62	
Total		20,130.12

Comparative statement of the earnings and expenses of the Central Branch Union Pacific Railroad Company.

	Year ended.		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$74,734.64	$70,160.49	$4,574.15	.....
Freight	466,156.92	468,668.44	.....	$2,511.52
Mail	15,862.28	15,862.28	.....	.....
Express	5,263.73	4,457.68	806.05	.....
Miscellaneous	8,783.95	7,757.28	1,026.67	.....
Total	570,801.52	566,906.17	3,895.35	.....
EXPENSES.				
Maintenance of way and structures	77,905.05	73,486.68	4,418.37	.....
Maintenance of equipment	40.301.38	26,912.31	13,389.07	.....
Conducting transportation	195.367.92	176,018.26	19,349.66	.....
General expenses	33,782.51	29,687.67	4,094.84	.....
Total	347,356.86	306,104.92	41,251.94	.....
Net earnings	223,444.66	260,801.25	.....	37,356.59
Average miles operated	100.00	100.00	.....	.....
Earnings per mile	5,708.02	5,669.06	38.96	.....
Expenses per mile	3,473.57	3,061.05	412.52	.....
Net earnings per mile	2,234.45	2,608.01	.....	373.56
Percentage of expenses to earnings	60.85	53.99	6.86	.....

CHICAGO, BURLINGTON AND QUINCY RAILROAD COMPANY.

This company has failed to submit, on the form prescribed by this Bureau, a report of its operations for the year ended June 30, 1893, a copy of its general balance sheet and a statement of earnings and expenses, only, having been furnished.

The first work of construction on the line of the present system was a branch from Turner Junction, on the Galena and Chicago Union

Railroad (now the Chicago and North-Western Railway), a point 30 miles west of Chicago, south to Aurora, a distance of 13 miles. This work was begun by the Aurora Branch Railway Company in 1849 and completed in 1852. The name of the company was changed in 1855. By the act of Congress approved May 15, 1856, there were granted by the United States to the State of Iowa, to aid in the construction of this road between Burlington and the Missouri River, 948,643.66 acres of land, and by the act of July 2, 1864, to the Burlington and Missouri River Railroad in Nebraska, assignee of the Burlington and Missouri River Railroad Company of Iowa, now forming part of what is known as the "Q" system, 2,441,600 acres—a total of 3,390,243.66 acres.

Burlington, Iowa, and Missouri River, Iowa, at East Plattsmouth, via Pacific Junction; Plattsmouth, Nebr., and Kearney Junction, Nebr., are the land-grant termini.

The records of the General Land Office show that to June 30, 1893, there had been patented to the Burlington and Missouri River Railroad Company, through the State of Iowa, 389,014.08 acres, and by the State of Nebraska, 2,373,290.77 acres—a total of 2,762,304.85 acres.

The following information with respect to the affairs of this company for the year ended December 31, 1892, has been compiled from the report for that year of the directors to the stockholders:

In the "Iowa Land Grant Sinking Fund" there had been invested the sum of	$9,127,942.40
Cash uninvested	37,521.24
Total	9,165,463.64

The cash receipts from sales of land in Nebraska during the year amounted to $212,131.22 and the amount expended for taxes, salaries, and commissions to $23,559.66, leaving a surplus of $188,571.56. The assets of the land department, which included 64,100 acres of land unsold, at an estimated value of $4 per acre, amount to $781,931.07.

The actual length of road in operation on December 31, 1892, was 5,556 miles against 5,324 miles on the corresponding date of the previous year—an increase of 232 miles.

The properties controlled by the company whose operations and mileage are not embraced in the report in question consist of 1,010 miles of standard-gauge and 169 miles of narrow-gauge railroad owned and 87 miles of standard gauge leased and operated jointly with other companies.

An increase is shown of $761.15 in the amount of gross earnings per mile over 1891, and an increase of 1.63 per cent in operating expenses. This is explained by the statement that the increased earnings came almost wholly from the carriage of low-class freight, such as grain, lumber, coal, and the like, which are transported at a very small margin of profit.

The expenditures during the year for construction amounted to

$530,372.82 and for equipment to $2,900,655.16—a total expenditure on this account to December 31, 1892, of $117,240,336.98.

The total amount debited to income account is $46,557,488.72, and the total amount credited $33,482,430.38, leaving balance of $13,075,058.34.

The equipment at the end of the year was as follows: 862 locomotives; 503 passenger and combination, 160 baggage, mail, and express, 9 dining, 11 officers' and pay, 396 way, 15 boarding, 9 wrecking, 23,750 box and cattle, 6,904 platform and coal, 1,465 hand, and 1,098 rubble and iron cars, and 5 pile-drivers.

The following statements show the financial condition of the company on June 30, 1893, including the earnings and expenses of the Burlington and Missouri River Railroad in Nebraska, for the year ended on that date:

ASSETS.

Cost of road, fixtures, and equipment	$199,763,668.30	
Stocks owned by company	10,016,763.26	
Bonds owned by company	8,600,990.00	
Other permanent investments	1,979,469.37	
Lands owned	695,305.88	
Sinking funds, company	15,254,479.11	
Materials and supplies on hand	1,764,211.23	
Cash on hand and current assets	6,165,782.73	
Total		$244,240,669.88

LIABILITIES.

Funded debt	123,606,230.84	
Interest on same, accrued, not due	142,824.50	
Current liabilities	4,850,287.08	
Bond subscriptions	4,265,700.00	
Renewal fund	9,000,000.00	
Current accounts, balance	805,969.65	
Income account	11,208,873.44	
Total	153,879,885.51	
Capital stock	76,408,900.00	
Total stock and debt		230,288,785.51
Surplus		13,951,884.37

Comparative statement of the earnings and expenses of the Chicago, Burlington and Quincy Railroad Company.

	Year ended—		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$7,797,782.51	$6,872,624.01	$925,158.50	.....
Freight	22,882,125.55	21,453,844.52	1,428 281.03	.....
Mail	1,225,337.35	1,300,602.70	.....	75,265.35
Express	726,317.57	691,327.89	34,989.68	.....
Miscellaneous	962,302.99	905,450.95	56,852.04	.....
Total	33,593,865.97	31,223,850.07	2,370,015.90	.....
EXPENSES.				
Maintenance of way and structures	4,721,021.17	4,524,918.18	196,102.99	.....
Maintenance of equipment	3,758 356.23	3,503,107.28	255,248.95	.....
Conducting transportation	11,428,432.00	10,107,467.74	1,320,964.26	.....
General expenses	1,884,544.63	1,722,233.23	162,311.40	.....
Total	21,792,354.03	19,857,726.43	1,934,627.60	.....
Net earnings.	11,801,511.94	11,366,123.64	435,388.30	.....
Average miles operated	5,556.21	5,324.69	231.52	.....
Earnings per mile	$6,046.18	$5,863.98	182.20	.....
Expenses per mile	3,922.16	3,729.37	192.79	.....
Net earnings per mile	2,124.02	2,134.61	.....	10.59
Percentage of expenses to earnings	64.87	63.60	1.27	.....

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY COMPANY.

This company, by advice of counsel, declines to submit, on the form prescribed by this Bureau, a report of its operations during the past year. The president of the company, in communicating this decision, assigns as a reason therefor, the opinion of the general counsel of the company "* * * that we are not a land-grant road in contemplation of the act and, there fore, not under obligation to make the report."

The Assistant Attorney-General for this Department, in an opinion in respect of this subject-matter, approved by the Secretary of the Interior, under date of November 18, 1889, held as follows:

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE ASSISTANT ATTORNEY-GENERAL,
Washington, D. C., September 30, 1889.

SIR: I have the honor to acknowledge receipt of a communication from the Commissioner of railroads, inclosing a letter from Marvin Hughitt, president of the Chicago and Northwestern Railway Company, claiming that said road is not subject to the provisions of the act of Congress of June 19, 1878 (20 Stat., 169), entitled "An act to create an auditor of railroad accounts, and for other purposes," which you have referred to me for my opinion thereon.

Said act establishes the office of "auditor of railroad accounts" as a bureau of the Interior Department, and his duties are defined by section 3 to be, "to prescribe a system of reports to be rendered to him by the railroad companies whose roads are in whole or in part west, north, or south of the Missouri River, and to which the United States have granted any loan or credit or subsidy in bonds or lands."

Section 4 then provides:

"That each and every railroad company aforesaid which has received from the United States any bonds of the said United States, issued by way of loan to aid in constructing or furnishing its road, or which has received from the United States any lands granted to it for a similar purpose, shall make to the said auditor any and all such reports as he may require from time to time, and shall submit its books and records to the inspection of said auditor or any person acting in his place and stead, at any time that the said auditor may request, in the office where said books and records are usually kept; and the said auditor, or his authorized representative, shall make such transcripts from the said books and records as he may desire."

Section 5 provides the penalty for neglect or refusal to furnish said reports, and section 6 provides that—

"This act shall apply to any and all persons or corporations into whose hands either of said railroads may lawfully come, as well as to the original companies."

As I understand the facts it is alleged by Mr. Hughitt that the Chicago and Northwestern Railway Company has never received from the United States a loan credit or subsidy in bonds, nor has any grant of lands been made by any act of Congress directly to this corporation, nor has any State conferred upon it the benefit of any grants made to such States to aid in the construction of any railroad. It is true, however, that by consolidation and as the successor to the rights and franchises of certain roads for which land grants have been made, the Chicago and Northwestern Railway Company has lawfully come into possession of such rights and has received all the benefits of the grants to said roads.

A part of the road owned by the Chicago and Northwestern Railway Company is from Fond du Lac, via Appleton and Green Bay, to the north of the Menominee River, which was built under the grant of June 3, 1856 (11 Stat., 20), to the State of Wisconsin, and conferred upon the Chicago, St. Paul and Fond du Lac Railroad Company. The property and franchises of the Chicago, St. Paul and Fond du Lac Railroad Company were purchased in 1859 at a mortgage sale by the Chicago and Northwestern Railway Company, and subsequent to this date the several acts of Congress of April 25, 1862, authorizing a change of location of said road, the act of March 3, 1865, extending the time for the completion of said road and acknowledging the Chicago and Northwestern Railway Company as the beneficiary of said grant, and the act of March 3, 1869, providing that "the Chicago and Northwestern Railroad Company may select their lands along the full extent of the original route of said road," were passed.

Another part of the road now owned by the Chicago and Northwestern Railway Company is the road from Marquette to the Wisconsin State line, located and constructed by said company under the grant of June 3, 1856, to the State of Michigan, and the joint resolution of Congress of July 5, 1862, said company having been consolidated with the Peninsula Railroad Company, upon whom the benefits of said grant were conferred by the State of Michigan. The act of March 3, 1865, also recognized the Chicago and Northwestern Company as the beneficiaries of said grant, and extended the time for the completion of said road, said right being granted expressly for the benefit of said railroad company by name.

It is insisted by Mr. Hughitt that the grants in these cases were made by the respective States to the roads in which they were located and not by the United States. While it is true that the State was named as the grantee, yet the State was only a trustee for the true beneficiary, which, in all instances, is the company upon which the State might see proper to confer the benefit of the grant.

It is immaterial whether the entire line of the Chicago and Northwestern Railway Company is made of land-grant roads or not. To bring it within the provisions of the act it is sufficient that it has received the benefits of a grant as the owner of all the rights and privileges of any road upon which such grant has been conferred, either by the Government directly, or by the State to whom the grant was originally made.

Part of the roads, at least, now composing the Chicago and Northwestern Company, were built by the aid of grants of land made by the Government; they lie within the limits defined by the act, and have lawfully come into the hands of this corporation. That such corporation should be amenable to the requirements of said act seems sufficiently clear from the provisions contained in the third and fourth sections; but if there is any doubt upon the question it is solved by the sixth section, which provides that "This act shall apply to any and all persons or corporations into whose hands said railroads may lawfully come, as well as to the original companies."

It has been held by the Supreme Court in Tomlinson *v.* Branch (15 Wallace, 460), that where two railroad companies are consolidated, the presumption is that each of the two united lines of road will be respectively held with the privileges and burdens originally attaching thereto, unless the contrary is expressed. See also P. & W. R. R. Co. *v.* Maryland (10 How., 376); County of Scotland *v.* Thomas (4 Otto, 682).

Very respectfully,

GEO. H. SHIELDS,
Assistant Attorney-General.

The SECRETARY OF THE INTERIOR.

The company was organized February 14, 1874, as successor to the Milwaukee and St. Paul Railway Company. The latter owned 1,399 miles of railroad and a majority interest in the Western Union Railroad Company, having 212.75 miles in operation. The company subsequently constructed and acquired 4,109.65 miles of road, so that on June 30, 1892, there were 5,721.40 miles of main track in operation.

Under a contract made in 1890, to run for a period of 999 years, the company secured an equal right to the use of the Union Pacific tracks from Council Bluffs, Iowa, to Omaha, Nebr., including the use of the bridge over the Missouri River at Omaha, and of the Union Passenger Station in Omaha.

By the acts of Congress approved March 3, 1857, May 12, 1864, and July 4, 1866, lands were granted by the United States through the States of Iowa and Minnesota to aid in the construction of the following roads forming part of the present system:

	Acres.
McGregor and Missouri River Railroad	1,536,000.00
Minnesota Central Railroad	643,403.00
Hastings and Dakota Railroad	550,000.00
Southern Minnesota Railway Company	794,619.45
Total	3,524,022.45

The records of the General Land Office show that to June 30, 1893, there had been patented to the—

	Acres.
Chicago, Milwaukee and St. Paul Railway	186,706.77
McGregor and Missouri River Railroad	138,187.30
Minnesota Central Railroad	179,706.01
Hastings and Dakota Railroad	349,116.88
Southern Minnesota Railway	509,992.69
Total	1,363,709.65

St. Paul, via Mendota or St. Paul Junction, Faribault, Austin, and Lyle, Minn.; Minneapolis, via same route and Lyle, Minn.; Calmar, Iowa, and Sheldon, Iowa, junction with Chicago, St. Paul, Minneapolis and Omaha—St. Paul and Sioux City Division; Hastings, Minn., and Ortonville, at western boundary of the State; Mississippi River (La Crescent) opposite La Crosse, Wis., and Houston, Minn.; and Houston, Minn., and Airlee, on western boundary of Minnesota, are the land-grant termini.

CHICAGO AND NORTHWESTERN RAILWAY COMPANY.

This company was organized June 7, 1859, as a successor to the Chicago, St. Paul and Fond du Lac Railroad Company.

The company owns the entire share capital of the Fremont, Elkhorn and Missouri Valley and a majority interest in the Sioux City and Pacific and the Chicago, St. Paul, Minneapolis and Omaha railway companies. By consolidation and purchase it has acquired 3,084.60 miles of road. It has also a proprietary interest in 1,188.47 miles of road which, with 0.47 miles operated under trackage rights, makes a total of 4,273.54 miles owned and operated.

Following are the grants of land made in aid of construction to the roads forming part of the present system:

Date of act.	Name of road.	Land grant.
		Acres.
June 3, 1856 July 5, 1862 Mar. 3, 1865	Chicago and Northwestern	1,165,575.76
Mar. 3, 1857 Mar. 3, 1865	Winona and St. Peter	1,410,000.00
May 15, 1856	Cedar Rapids and Missouri River	1,298,739.00
June 3, 1856 May 5, 1864	Chicago, St. Paul, Minneapolis and Omaha	2,173,706.43
Mar. 3, 1857 May 12, 1864	St. Paul and Sioux City	1,010,000.00
May 12, 1864	Sioux City and St. Paul	524,800.00
July 2, 1864	Sioux City and Pacific	60,000.00
	Total	7,642,821.19

The records of the General Land Office show that, of the foregoing grants, lands had been patented to June 30, 1893, as follows:

	Acres.
Cedar Rapids and Missouri River	719,142.57
Chicago, St. Paul, Minneapolis and Omaha	2,166,436.10
St. Paul and Sioux City	1,146,888.52
Sioux City and St. Paul	407,910.21
Sioux City and Pacific	41,398.23
Winona and St. Peter	1,676,787.31
Chicago and Northwestern	1,073,554.08
Total	7,232,117.02

The records of the General Land Office also show that 125,000 acres of land, located in Wisconsin, belonging to the Chicago, St. Paul, Minneapolis and Omaha Railway Company had been forfeited, and that 26,017.33 acres, located in Iowa, belonging to the Sioux City and St. Paul Railroad Company, had been restored to the public domain.

The company reports that to June 30, 1893, the total number of acres of land acquired under the several grants amounted to 2,959,-105.20, of which 1,946,603.50 acres had been sold and conveyed by deed, leaving 284,956.23 acres under contract, and 727,545.47 acres owned by the company. The total cash receipts from all sales amounted to $7,282,137.55, and there remained outstanding, on account of time sales, the sum of $1,329,422.11.

Winona, Minn., to a point on the Big Sioux River six-tenths of a mile west of Watertown station; Cedar Rapids, Iowa, to the transfer grounds, Union Pacific Railway; and branch, Lyons, Iowa, to Clinton, Iowa, are the land-grant termini.

The main line of the road extends from Chicago, Ill., to Council Bluffs, Iowa, a distance of 491 miles. There are 360.56 miles of double track and 1,266.24 miles of sidings.

The expenditures during the year, for additions and betterments to railway, amounted to $2,563,470.33, and for rolling stock to $2,010,834.30, all of which was charged to construction account. There were purchased during the year 29 locomotives, 100 first-class passenger, 65 sleeping, 6 express, 1 mail, 14 combination, 100 refrigerator, 1,000 coal, 470 stock and 10 milk cars.

The equipment consists of 898 locomotives, of which 883 are equipped with Westinghouse brakes; 17 parlor, 9 dining, 2 buffet, 26 chair, 452 first-class, 28 second-class, 39 milk, 31 mail, 132 express, 62 combination and 8 officers' cars—a total of 806 cars in the passenger service, all of which are equipped with Westinghouse brakes and Chicago and Miller platforms.

In the freight service there are 16,700 box, 2,331 stock, 2,950 coal, 21,576 flat, 329 refrigerator, 4,053 ore and 486 caboose cars, a total of 29,425 cars in this service, similarly equipped with the cars in the passenger service.

In the road repair service there are 25 derrick and wrecking, 107 dump, gravel and construction and 18 boarding cars. There are also 2 steam snowplows.

The express business over the company's lines, except the local business between Chicago and Milwaukee, which is performed by the United States Express Company, is transacted by the American Express Company. The company runs its own parlor and dining cars.

Sundry contracts and agreements have been entered into with other companies at various times for joint use of tracks and terminal facilities and with the Union Pacific Railway Company for the establishment of a certain joint through line.

The following statements show the financial condition of the company on June 30, 1893:

ASSETS.

Cost of road, fixtures, and equipment	$167,802,834.42	
Cost of real estate and property other than road	638,510.12	
Land-grant investments	420,925.00	
Fuel, material, and stores on hand	2,039,162.94	
Cash on hand	819,303.52	
Company's stocks and bonds owned by company	2,586,742.64	
Other stocks and bonds, including bonds held as collateral for bonds of the Chicago and Northwestern Railway Company issue	34,635,818.58	
Sinking funds paid and accretions to	6,498,536.20	
Bills receivable	265,684.98	
Accounts receivable	1,856,029.43	
Total assets		$217,563,547.83

LIABILITIES.

First-mortgage bonds	81,195,500.00	
Interest on same, due and unpaid	101,501.50	
Interest on same accrued, not due	1,224,005.25	
Other funded debt	35,905,000.00	
Interest on same, due and unpaid	69,180.02	
Interest on same accrued, not due	310,612.47	
Dividends unpaid	50,903.50	
Accounts payable	962,929.19	
Pay rolls and vouchers	1,253,391.64	
Due other companies on account of traffic	222,976.48	
Due other companies on account of leases	6,000.00	
Sinking funds, installments paid	5,657,896.20	
Sinking funds, accretions to	840,640.00	
Fremont, Elkhorn, and Missouri Valley Railroad Company	238,473.71	
Missouri Valley and Blair Railway and Bridge Company	975,047.11	
Securities for capital stock issued	10,009,822.61	
Securities retired and canceled from income	640,000.00	
Total debt	139,663,879.68	
Capital stock	66,528,820.53	
Total stock and debt		206,192,700.21
Surplus		11,370,847.62

Revenue and expenditures for the year ended June 30, 1893.

REVENUE.

Earnings	$32,718,629,35	
Dividends on stocks of other companies	727,709.50	
Interest on miscellaneous investments	43,401.98	
Receipts of the land department	546,416.98	
Total		$34,036,157.81

EXPENDITURES.

Operating expenses	$21,291,738.03	
Taxes	1,014,254.19	
		$22,305,992.22
Interest on first-mortgage bonds		4,236,611.40
Interest on other funded debt		1,960,127.78
Sinking-fund requirements, company		200,200.00
New construction		2,563,470.33
New equipment		2,010,834.30
Dividends, 1892–'93		3,906,561.50
Expenses of the land department		124,096.30
Land purchased on account of town-lot companies.	4,864.04	
Total		$37,312,757.87
Deficit		3,276,600.06

Comparative statement of the earnings and expenses of the Chicago and Northwestern Railway Company.

	Year ended—		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$8,360,625.40	$7,514,834.62	$845,790.78	.....
Freight	23,110,913.81	23,320,913.53	.....	$209,999.72
Mail	663,435.77	660,387.87	3,047.90	.....
Expresss	418,514.91	419,501.12	.....	986.21
Miscellaneous	165,139.46	149,120.25	16,019.21	.....
Total	32,718,629.35	32,064,757.39	653,871.96	.....
EXPENSES.				
Maintenance of way and structures	4,416,414.08	4,136,525.56	279,888.52	.....
Maintenance of equipment	3,396,235.92	3,130,031.23	266,204.69	.....
Conducting transportation	12,036,910.73	11,161,793.05	875,117.68	.....
General expenses and taxes	2,456,431.49	2,266,010.15	190,421.34	.....
Total	22,305,992.22	20,694,359.99	1,611,632.23	.....
Net earnings	10,412,637.13	11,370,397.40	.....	957,760.27
Average miles operated	4,273.07	4,273.07	.....	.....
Earnings per mile	$7,656.93	$7,503.91	153.02	.....
Expenses per mile	5,220.13	4,842.97	377.16	.....
Net earnings per mile	2,436.80	2,660.94	.....	224.14
Percentage of expenses to earnings	68.17	64.54	3.63	.....

CHICAGO, ROCK ISLAND AND PACIFIC RAILWAY COMPANY.

This company has failed to submit, on the form prescribed by the Bureau, a report of its operations during the past year.

The Chicago and Rock Island Railroad Company was chartered in Illinois February 7, 1851, and the road opened from Chicago to the Mississippi River July 10, 1854. The company for the extension of the line from the Mississippi to the Missouri River was chartered in 1852 under the name of the Mississippi and Missouri Railroad Company. The two were consolidated August 22, 1866, as the Chicago, Rock Island and Pacific Railroad Company.

By the act of Congress, approved May 15, 1856, there were granted by the United States, through the State of Iowa, to the Mississippi and Missouri Railroad Company, 1,261,181.60 acres of land.

Davenport, Iowa, and the transfer grounds, Union Pacific Railway, are the land-grant termini.

The records of the General Land Office show that, to June 30, 1893, there had been patented to the company by the Government 420,169.21 acres of land.

The land commissioner of the company, under date of May 1, 1893, reports to the president as follows:

With warranty 925.01 acres of land have been conveyed or contracted for the consideration of $12,133.08. Quitclaims have been issued to 237.92 acres, for which $30 were received.

The bills receivable were decreased during the year by the sum of $32,954.03, and stood at $94,193.12 at the close. Interest and rentals were collected to the amount of $9,124.14.

Taxes on the lands and lots unsold January 1, 1893, were paid amounting to $628.73; and back taxes on lands forfeited were settled to the amount of $279.51, the last have all been resold for prices more than covering the original consideration with interest and taxes.

During the year there has been remitted to the treasurer of the company from the net receipts of this office the sum of $60,000.

The acreage remaining undisposed of (of lands to which the title is perfect) is now only 1,629.05 acres; to this is to be added town property, mainly at Audubon.

The following information is compiled from the report of the directors to the stockholders of the company for the year ended March 31, 1893:

The main line of road extends from Chicago, Ill., to Council Bluffs, Iowa, a distance of 498.81 miles.

The principal branch lines owned are as follows:

	Miles.
Davenport, Iowa, to Atchison, Kans	341.84
South Omaha, Nebr., to Jansen, Nebr	107.05
Elwood, Kans., to Liberal, Kans	439.54
Herington, Kans., to Terral, Ind. T	349.07
Horton, Kans., to Roswell, Colo	568.65
McFarland, Kans., to Belleville, Kans	103.98

Other branch lines, 969.71 miles in length, make a total of 2,879.84 miles owned.

The company also leases 352.66 miles, and has trackage rights over 377.68 miles; an aggregate of 3,610.18 miles of road operated.

During the year there were 10,828 tons of new steel rails laid at a cost of $335,139.52, and 685,627 new cross-ties placed in the track at a cost of $307,598.14. New wire fencing cost $4,632.88.

The equipment consisted of 552 locomotives; 47 sleeping, 305 passenger, 78 baggage, mail, and express, 14 railway postal, 13 dining, and 5 officers' cars; a total of 462. In the freight service there were 10,530 box, 2,347 stock, 2,759 platform and coal, and 385 drovers', caboose,

and other cars; total, 16,021. There were also 1,356 cars in the road-repair service.

The following statements show the financial condition of the company April 1, 1893, and the earnings and expenses for the years ended June 30, 1893–1892:

LIABILITIES.

Six per cent mortgage bonds	$12,500,000.00	
Five per cent extension bonds	38,990,000.00	
Five per cent debenture bonds	3,000,000.00	
Chicago and Southwestern Railway bonds, guaranteed	5,000,000.00	
Addition and improvement account	8,213,000.00	
Accounts payable	1,283,644.50	
Total debt		$68,986,644.50
Capital stock		46,156,000.00
Total stock and debt		115,142,644.50

ASSETS.

Road and equipment	$100,389,353.39	
Railroad bridge at Rock Island	758,526.10	
Cost of southern extension	1,672,242.16	
Stock and bonds of connecting roads	8,731,890.35	
Loans and other investments	517,535.31	
Advances made to the Chicago, Rock Island and Texas Railway Company, as per agreement dated January 2, 1893	308,984.69	
Company's stock on hand	12,100.00	
Company's 6 per cent mortgage bonds on hand	400,000.00	
Company's 5 per cent extension and collateral bonds on hand	469,000.00	
Sinking-fund account, first-mortgage extension and collateral 5 per cent bonds purchased	213,000.00	
Fuel, material, and stores on hand	1,467,322.56	
Accounts receivable	908,812.37	
Cash and loans (payable on demand)	314,871.01	
Total		116,163,637.94
Surplus		1,020,993.44

Comparative statement of the earnings and expenses of the Chicago, Rock Island and Pacific Railway Company.

	Year ended.		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$6,110,435.51	$5,376,294.23	$734,141.28	.....
Freight	13,599,370.28	12,525,793.64	1,073,576.64	.....
Mail	453,824.31	450,185.87	3,638.44	.....
Express	348,424.30	322,902.35	25,521.95	.....
Miscellaneous	1,056,081.75	517,222.54	538,859.21	.....
Total	21,568,136.15	19,192,398.63	2,375,737.52	.....
EXPENSES.				
Maintenance of way and structures	3,266,947.03	2,992,172.37	274,774.66	.....
Maintenance of equipment	2,555,810.85	2,310,476.27	245,334.58	.....
Conducting transportation	7,232,751.34	6,126,530.52	1,106,220.82	.....
General expenses and taxes	2,564,125.59	2,283,781.66	280,343.93	.....
Total	15,619,634.81	13,712,960.82	1,906,673.99	.....
Net earnings	5,948,501.34	5,479,437.81	469,063.53	.....
Average miles operated	3,456	3,456	.....	.....
Earnings per mile	$6,240.78	$5,553.35	$687.43	.....
Expenses per mile	4,519.57	3,967.87	551.70	.....
Net earnings per mile	1,721.21	1,585.48	135.73	.....
Percentage of expenses to earnings	72.42	70.92	1.50	.....

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY.

(CHICAGO AND NORTHWESTERN RAILWAY COMPANY.)

This company was organized June 1, 1880, by the consolidation of the Chicago, St. Paul and Minneapolis and the North Wisconsin Railway companies. Under the terms of the consolidation the St. Paul and Sioux City and the Sioux City and St. Paul railroads were purchased. Included in the main line are 5.20 miles from St. Paul to Mendota, which are owned jointly with the Chicago, Milwaukee and St. Paul Railway Company. 11.4 miles of the St. Paul, Minneapolis and Manitoba Railway from East Minneapolis to St. Paul and 1.59 miles of the Northern Pacific Railroad (bridge) near Duluth are leased or operated under traffic contracts.

By the acts of Congress approved June 3, 1856, and May 5, 1864, grants of land were made as follows to roads now belonging to the Chicago, St. Paul, Minneapolis and Omaha Railway Company:

	Acres.
St. Croix and Lake Superior	1,251,208.90
La Crosse and Milwaukee	922,497.53
Total	2,173,706.43

The records of the General Land Office show that to June 30, 1893, there had been patented to the—

	Acres.
St. Croix and Lake Superior	1,349,610.48
La Crosse and Milwaukee	816,825.62
Total	2,166,436.10

The records of the General Land Office also show that 125,000 acres of railroad indemnity lands, belonging to the Chicago, St. Paul, Minneapolis and Omaha Railway Company, located in Wisconsin, have been restored to the public domain.

The company's report shows that, to June 30, 1893, the total number of acres received by United States patent was 987,955.50; from the State of Wisconsin 1,174,887.29; and by cancellation of contracts 1,469.96, a total of 2,164,312.75 acres of land.

The report also shows that, to the same period, there had been disposed of, for cash and on time contracts, 1,688,853.79 acres. The total cash receipts from all sales to the above date amounted to $7,881,701.74, and there remained outstanding on account of time sales the sum of $547,614.06. The receipts of the land department during the year were $315,778.39, and the expenses $244,333.89.

The main line of road extends from—

	Miles.
Elroy, Wis., to Minneapolis, Minn.	195.17
North Wisconsin Junction to Bayfield, Wis	178.24
Eau Claire to Spooner, Wis.	81.51
Superior Junction, Wis., to Duluth, Minn	71.45
St. Paul, Minn., to Sioux City, Iowa	243.76
Sioux City, Iowa, to Omaha, Nebr	123.06
Total	893.19

There are also 518.83 miles of branches, 380.56 miles of sidings, and 23.70 miles of double track, a total of 1,816.28 miles of track, of which 1,296.10 miles are laid with steel rails.

The additions and betterments to railway during the year amounted to $5,806,955.98, and to rolling stock $267,295.71. There were laid during the year 15,117.64 tons of steel rails, at a cost of $481,043.30, and 614,691 cross ties were placed in the track, at a cost of $298,409.60.

At the end of the year the equipment consisted of 61 passenger, 173 freight and 35 switching locomotives; total 269, 266 of which were equipped with Westinghouse, New York air, American steam, and Eames's vacuum brakes. In the passenger service there were 1 buffet, 4 parlor, 2 dining, 3 chair, 79 first-class, 24 second-class, 10 mail, 39 baggage, 15 express, combination and mail, 22 combination and 3 officers' cars; total 202, all equipped with Westinghouse brakes and Miller platforms. In the freight service there were 6,054 box, 393 stock, 934 coal, 1,234 flat, 75 refrigerator, 75 furniture, and 127 caboose cars; total 8,892. In the road and miscellaneous service there were 46 dump, gravel, and construction, 3 boarding, and 9 wrecking cars, and 1 rotary snow plow.

The express business on the company's lines is transacted by the American Express Company under contract, on a tonnage basis. By contract with the Pullman Palace Car Company its sleepers are run over the company's lines on a mileage basis.

The following statements show the financial condition of the company on June 30, 1893:

ASSETS.

Cost of road, fixtures, and equipment	$54,087,875.31	
Fuel, material, and stores on hand	1,036,632.83	
Cash on hand	649,142.09	
Company's stocks and bonds owned by company	4,547,853.32	
Other stocks and bonds	271,700.00	
Bills receivable	692.26	
Accounts receivable	1,325,992.43	
Due from U. S. Post-Office Department	48,192.99	
Total assets		$61,968,081.23

LIABILITIES.

First-mortgage bonds	24,459,800.00	
Interest on same, due and accrued (income coupons due July 1, 1893)	73,466.75	
Interest on same, accrued not due	191,448.34	
Dividends unpaid	394,031.50	
Pay rolls and vouchers	754,228.04	
Due other companies on account of traffic	35,658.55	
Due other companies on account of leases	7,501.19	
Accrued taxes not yet due	236,694.66	
Total debt		26,152,829.03
Capital stock		34,050,126.66
Total stock and debt		60,202,955.69
Surplus		1,765,125.54

Revenue and expenditures for the year ended June 30, 1893.

REVENUE.

Earnings	$9,190,820.26	
Dividends on stocks of other companies	4,200.00	
Interest on bonds of other companies	8,100.00	
Interest on miscellaneous investments	24,845.81	
Receipts of the land department	315,778.39	
Total		$9,543,744.46

EXPENDITURES.

Operating expenses and taxes	6,670,875.65	
Interest on first-mortgage bonds	1,450,416.00	
New construction	876,201.32	
New equipment	267,295.71	
Dividends Nos. 33 and 34, December, 1892, and June, 1893	787,976.00	
Expenses of the land department	244,333.89	
Total		10,297,098.57
Deficit		753,354.11

Earnings and expenses for the year ended June 30, 1893.

EARNINGS.

Passenger	$2,135,100.32	
Freight	6,628,702.08	
Mail	183,334.79	
Express	107,411.07	
Miscellaneous	136,272.00	
Total		$9,190,820.26

EXPENSES.

Maintenance of way and structures	1,877,240.04	
Maintenance of equipment	954,345.80	
Conducting transportation	2,906,791.25	
General expenses and taxes	932,498.56	
Total		6,670,875.65
Net earnings		2,519,944.61
Average miles operated		1,481.61
Earnings per mile	6,203.26	
Expenses per mile	4,502.45	
Net earnings per mile		1,700.81
Percentage of expenses to earnings		72.58

DUBUQUE AND SIOUX CITY RAILROAD COMPANY.

(ILLINOIS CENTRAL RAILROAD COMPANY.)

This road was chartered November 24, 1856, as the Dubuque and Pacific Railroad Company. It was sold under foreclosure August 21, 1860, and the present company organized. The road was opened to Cedar Falls, 100 miles, April 1, 1861, and to the present terminus in 1866. A controlling interest was acquired by the Illinois Central Railroad Company in 1887.

By the act of Congress approved May 15, 1856, there were granted to the Dubuque and Pacific Railroad Company, through the State of Iowa, 1,226,163 acres of land. The records of the General Land Office show that, to June 30, 1893, there had been patented to the company 327,690.39 acres, and to the Iowa Falls and Sioux City Railroad Company 683,023.80 acres. Dubuque, Iowa, and Sioux City, Iowa, are the land-grant termini.

The company makes no report of the operations of its land department, with the exception of an amount of $1,731.83, received from interest on time sales, and $22,730 outstanding on that account.

The main line of road extends from Dubuque to Sioux City, Iowa, a distance of 326.58 miles, and the report of the operating company is restricted in detail thereto.

The expenditures during the year for additions and betterments to

railway amounted to $91,869.31, all of which was charged to construction account.

The equipment consists of 31 passenger, 17 freight, and 14 switching locomotives, all of which are equipped with Westinghouse brakes; 28 first-class and 17 combination cars, equipped with Westinghouse brakes and Miller platforms; 137 box, 24 stock, 14 coal, 24 flat, and 7 caboose cars, none of which have air brakes.

The following statements show the financial condition of the company on June 30, 1893:

LIABILITIES.

First-mortgage bonds	$9,547,000.00	
Interest on same, due and accrued	23,992.50	
Dividends unpaid	763.55	
Payrolls, vouchers, and accounts	713.49	
Due other companies on account of traffic	100,500.82	
Total		$9,672,970.36
Capital stock		7,999,600.00
Total stock and debt		17,672,570.36

ASSETS.

Road, fixtures, and equipment	17,220,455.43	
Fuel, material, and stores on hand	22,730.00	
Company's stocks and bonds owned by company	523,073.13	
Other stocks and bonds	5.80	
Accounts receivable	243.82	
Total		17,766,508.18
Surplus		93,937.82

Revenue and expenditures for the year ended June 30, 1893.

REVENUE.

Earnings	$2,197,052.58	
Dividends on stocks of other companies	108.45	
Interest on bonds of other companies	32,235.00	
Receipts of land department	1,731.83	
Total		$2,231,127.86

EXPENDITURES.

Operating expenses	1.393,179.89	
Interest on first-mortgage bonds	348,570.00	
New construction	91,869.31	
Dividends (December 31, 1892)	99,995.00	
Net loss on branch lines	381,590.21	
Total		2,315,204.41
Deficit		84,076.55

Comparative statement of the earnings and expenses of the Dubuque and Sioux City Railroad Company.

	Year ended—		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$601,572.47	$624,830.26	.....	$23,257.79
Freight	1,434,292.27	1,534,211.41	.....	99,919.14
Mail	67,893.61	74,731.16	.....	6,837.55
Express	42,932.49	32,268.67	$10,663.82	.....
Miscellaneous	50,361.74	46,799.66	3,562.08	.....
Total	2,197,052.58	2,312,841.16	.....	115,788.58
EXPENSES.				
Maintenance of way and structures	344,339.12	421,219.03	.....	76,879.91
Maintenance of equipment	199,867.09	211,691.80	.....	11,824.71
Conducting transportation	624,793.46	612,397.33	12,396.13	.....
General expenses and taxes	224,180.22	222,931.84	1,248.38	.....
Total	1,393,179.89	1,468,240.00	.....	75,060.11
Net earnings	803,872.69	844,601.16	.....	40,728.47
Average miles operated	326.58	326.58	.....	.....
Earnings per mile	6,727.45	7,082.00	.....	354.55
Expenses per mile	4,265.96	4,495.80	.....	229.84
Net earnings per mile	2,461.49	2,586.20	.....	124.71
Percentage of expenses to earnings	63.41	63.48	.....	07

HANNIBAL AND ST. JOSEPH RAILROAD COMPANY.

(CHICAGO, BURLINGTON AND QUINCY RAILROAD COMPANY.)

This company has failed to submit, on the form prescribed by this Bureau, a report of its operations for the year ended June 30, 1893; a copy of its general balance sheet and a statement of earnings and expenses only having been furnished.

The company was chartered February 16, 1847, and the road opened February 14, 1859. The branches were built under separate charters. In 1882 a controlling interest in this road was purchased by the Chicago, Burlington and Quincy Railroad Company. The Missouri Pacific Railway Company uses the road between St. Joseph and Atchison, together with the terminal facilities at St. Joseph. The Chicago, Rock Island and Pacific Railway Company pays rental for running its trains between Cameron and Kansas City.

By the act of Congress approved June 10, 1852, there were granted to the company, through the State of Missouri, 781,944.83 acres of land. Hannibal, Mo., and St. Joseph, Mo., are the land-grant termini. The records of the General Land Office show that to June 30, 1893, there had been patented to the company 603,186.34 acres.

LIABILITIES.

Funded debt	$8,000,000.00	
Current liabilities	295,702.27	
Accounts not liabilities	101,356.83	
Profit and loss	223,771.64	
Income account	2,040,044.47	
Total debt		$10,660,875.21
Capital stock		14,251,969.00
Total stock and debt		24,912,844.21

ASSETS.

Road, fixtures, and equipment	23,727,924.71	
Stocks owned	100,300.00	
Cash and current assets	866,525.62	
Material and supplies	193,897.42	
Sundry assets	21,951.79	
Excess of interest matured over accrued	2,244.67	
Total assets		24,912,844.21

Comparative statement of the earnings and expenses of the Hannibal and St. Joseph Railroad Company.

	Year ended—		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$678,662.20	$669,818.74	$8,843.46	.....
Freight	1,867,795.20	1,765,234.43	102,560.77	.....
Mail	85,833.69	92,277.25	.....	$6,443.56
Express	71,899.98	69,999.96	1,900.02	.....
Miscellaneous	346,869.87	330,511.54	16,358.33	.....
Total	3,051,060.94	2,927,841.92	123,219.02	.....
EXPENSES.				
Maintenance of way and structures	318,909.17	443,810.42	.....	124,901.25
Maintenance of equipment	345,474.23	327,377.38	18,096.85	.....
Conducting transportation	1,204,947.93	1,133,139.00	71,808.93	.....
General expenses and taxes	183,129.43	181,347.22	1,782.21	.....
Total	2,052,460.76	2,085,674.02	.....	33,213.26
Net earnings	998,600.18	842,167.90	156,432.28	.....
Average miles operated*	295.25	295.25	.....	.....
Earnings per mile	10,333.82	9,916.48	417.34	.....
Expenses per mile	6,951.60	7,064.09	.....	112.49
Net earnings per mile	3,382.22	2,852.59	529.83	.....
Percentage of expenses to earnings	67.27	71.23	.....	3.96

*As shown by Poor's Manual of Railroads.

LITTLE ROCK AND MEMPHIS RAILROAD COMPANY.

(SUCCESSOR TO THE MEMPHIS AND LITTLE ROCK RAILROAD COMPANY.)

The trustees of the general mortgage of the Memphis and Little Rock Railroad took possession in August, 1884, sold the road and organ-

ized the present company September 1, 1887. On June 1, 1893, the president was appointed receiver.

By the acts of Congress approved February 9, 1853, and July 28; 1866, there were granted to the Memphis and Little Rock Railroad Company, through the State of Arkansas, 438,646 acres of land. The records of the General Land Office show that to June 30, 1893, there had been patented 174,567.75 acres.

The main line of the road extends from Argenta, Ark., to Hopefield, Ark., opposite Memphis, Tenn., a distance of 131.83 miles. The Mississippi River, opposite Memphis, and Argenta, opposite Little Rock, are the land-grant termini.

The receiver's report of the operations of the land department is exceedingly meager, neither the number of acres patented to the company nor the number of acres sold being given. The number of acres still owned by the company and undisposed of is reported as 61,804; and the amount outstanding on account of time sales, as $8,259.52.

The amount expended for additions and betterments to railway during the year was $164.98.

The roadway, bridges, track, buildings, etc., are assessed for taxation at a valuation of $840,130, and the equipment at $140,986; but the receiver makes no itemized report.

The express business on the company's lines is transacted by the Pacific Express Company, under contract.

The Pullman Palace Car Company runs its cars on a mileage basis.

The use of terminals at Little Rock and Memphis are leased from the Missouri Pacific, Kansas City, Memphis and Birmingham, and Illinois Central railroad companies.

LIABILITIES.

Bills payable	$45,000.00	
Accounts payable	26,911.56	
Pay rolls and vouchers	16,156.55	
Due other companies on account of traffic	8,180.82	
Total		$96,248.93

ASSETS.

Land contracts, land cash, etc	8,259.52	
Fuel, material, and stores on hand	26,306.82	
Accounts receivable	46,878.92	
Cash on hand	12,220.58	
Profit and loss	3,683.83	
Total		97,349.67
Surplus		1,100.74

Revenue and expenditures for the year ended June 30, 1893.

REVENUE.

Earnings	$400,229.87	
Receipts of the land department	2,809.00	
Total		$403,038.87

EXPENDITURES.

Operating expenses	404,013.70	
New construction	164.98	
Expenses of the Land Department	2,151.50	
Total		406,330.18
Deficit		3,291.31

Comparative statement of the earnings and expenses of the Little Rock and Memphis Railroad Company.

	Year ended—		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$122,326.03	$257,507.87	.....	$135,181.84
Freight	250,968.18	397,291.04	.....	146,322.86
Mail	16,674.69	15,990.17	$684.52	.....
Express	8,671.27	14,886.91	.....	6,215.64
Miscellaneous	1,589.70	2,425.50	.....	835.80
Total	400,229.87	688,101.49	.....	287,871.62
EXPENSES.				
Maintenance of way	92,670.77	117,754.28	.....	25,083.51
Motive power	43,240.79	70,953.28	.....	27,712.49
Maintenance of cars	194,862.97	259,376.19	.....	64,513.22
General expenses and taxes	73,239.17	107,589.43	.....	34,350.26
Total	404,013.70	555,673.18	.....	151,659.48
Net loss	3,783.83	.....	.....	.....
Net earnings	.....	132,428.31	.....	136,212.14
Average miles operated	132.00	132.00	.....	.....
Earnings per mile	3,032.04	5,212.89	.....	2,180.85
Expenses per mile	3,060.71	4,209.64	.....	1,148.93
Net loss per mile	28.67	.....	.....	.....
Net earnings per mile	.....	1,003.25	.....	1,031.92
Percentage of expenses to earnings	100.94	80.75	20.19	.....

MISSOURI PACIFIC RAILWAY COMPANY.

This company is the successor of the Missouri Pacific Railroad Company of Missouri, which was organized March 12, 1849, to build a road from St. Louis to Jefferson City and thence to the western boundary of the State.

The land grant to the Pacific Railroad of Missouri (1,161,235.07 acres; see history of the St. Louis and San Francisco Railway Company) was conveyed to the South Pacific Railroad. This road was taken possession of by the State in 1866 for nonpayment of interest on the State subsidy, and sold, with the lands, to the Atlantic and Pacific Railroad Com-

pany, which, in 1872, leased the line of the old company. The two roads were operated under one management until 1876, when the Pacific Road was sold under process of foreclosure of the third mortgage and conveyed by the purchasers to the present company, which was incorporated October 21, 1876. By articles of association filed August 11, 1880, the Missouri Pacific was consolidated with the St. Louis and Lexington, the Kansas City and Eastern, the Lexington and Southern, the St. Louis, Kansas and Arizona, the Missouri River, and the Leavenworth, Atchison and Northwestern Railroads, which form the existing company.

This company leases the following roads, which are subject to the provisions of the act approved June 19, 1878:

Central Branch Union Pacific Railroad, the lease running for twenty-five years from December 6, 1886, the Missouri Pacific accounting to the Union Pacific Company (owners) for the net earnings.

Little Rock and Fort Smith Railway, which received a grant in aid of construction of 1,100,000 acres of land, 1,057,647.55 of which had been patented to June 30, 1893.

St. Louis, Iron Mountain and Southern Railway Company (which see).

The company makes no report of the operations of its land department.

The main line of this road extends from the levee, Eleventh street, St. Louis, to Webster street, Omaha, a distance of 494.77 miles. The company also owns 762.03 miles of branch lines and leases 307.57 miles—a total of 1,562.48 miles of road owned and operated. There are 33.70 miles of double track, 210.78 miles of sidings on the main line, and 168.40 miles of sidings on branch lines—an aggregate of 1,975.36 miles of track. There are 146.06 miles of road ballasted with stone, 300.16 miles with gravel, 82.12 miles with cinder, and 1,034.14 miles with earth. There are 2,101.28 miles of barbed wire fencing. Steel rails of from 56 to 63 pounds per lineal yard are laid on 1,506.11 miles of track and iron rails of from 45 to 52 pounds on 56.37 miles of track.

Betterments to railway and equipment were effected through expense accounts, no improvement account being kept.

There were 4,807.69 new rails laid during the year, at a cost of $74,039.97, and 629,278 new oak cross-ties placed in the track, at a cost of $282,387.98.

During the same period there were added 10 chair, 21 first-class, 2 baggage, mail, and express, 500 box, 2 flat, 15 caboose, and 3 wrecking cars.

The equipment consists of 77 passenger, 194 freight, and 50 switching locomotives, 208 of which are equipped with Westinghouse brakes; 2 parlor, 55 sleeping, 56 chair, 116 first-class, 65 mail, baggage, and express, 45 combination, and 6 officers' cars, all equipped with Westinghouse brakes and Miller platforms. In the freight service there are

5,928 box, 921 stock, 4,290 coal, 710 flat, 369 refrigerator, 15 fruit, and 159 caboose cars. Total passenger service, 345; freight service, 12,392; aggregate, 12,737 cars.

In the road and miscellaneous service there are 4 boarding, 19 wrecking, 767 hand, 4 "other," and 678 push cars, and 8 derricks.

The following statements show the financial condition of the company on June 30, 1893:

ASSETS.

Cost of road, fixtures, and equipment	$49,590,297.32	
Real estate other than road	749,783.24	
Fuel, material, and stores on hand	1,059,500.85	
Stocks, bonds, and miscellaneous investments	57,389,152.99	
Bills receivable	11,700.00	
Accounts receivable	4,573,077.38	
Cash on hand	470,881.43	
Total		$113,844,393.21

LIABILITIES.

Funded debt	54,012,000.00	
Interest on same, due and unpaid	68,065.00	
Interest on same, accrued, not due	865,358.32	
Bills and accounts payable	4,478,066.47	
Pay rolls and vouchers	3,254,512.94	
Due other companies on account of traffic	70,343.93	
Total debt	62,748,346.66	
Capital stock	47,436,575.00	
Total stock and debt		110,184,921.66
Surplus		3,659,471.55

Revenue and expenditures for the year ended June 30, 1893.

REVENUE.

Earnings	$11,474,393.53	
Dividends on stocks and interest on bonds of other companies, and profits on miscellaneous investments	319,224.93	
Terminal facilities	220,125.78	
Sundry amounts	166,062.00	
Total		$12,179,806.24

EXPENDITURES.

Operating expenses, rentals and taxes	8,680,824.38	
Interest on funded debt	2,781,766.66	
Interest on other debt	102,392.22	
Branch lines, deficit	349,705.98	
Expenses of traffic association	18,974.99	
Compensation retained by United States on account of land grant	276.87	
Discount and premium	78,344.43	
Sundry expenses	25,073.91	
Total		12,037,359.44
Surplus		142,446.80

Comparative statement of the earnings and expenses of the Missouri Pacific Railway Company.

	Year ended—		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$2,108,470.43	$2,102,911.87	$5,558.56	.....
Freight	7,790,966.05	7,544,502.18	246,463.87	.....
Mail	436,091.13	425,241.61	10,849.52	.....
Express	205,225.60	197,478.10	7,747,50	.....
Miscellaneous	933,640.32	879,071.47	54,568.85	.....
Total	11,474,393.53	11,149,205.23	325,188.30	.....
EXPENSES.				
Maintenance of way and structures	1,710,952.29	1,494,008.71	216,943.58	.....
Maintenance of equipment	1,799,958.42	1,560,975.37	238,983.05	.....
Conducting transportation	4,117,813.32	3,809,375.94	308,437.38	.....
General expenses	593,987.23	972,228.29	.....	$378,241.06
Total	8,222,711.26	7,836,588.31	386,122.95	.....
Net earnings	3,251,681.27	3,312,616.92	.....	61,005.65
Average miles operated	1,562.48	1,562,48	.....	.....
Earnings per mile	$7,343.70	$7,135.58	$208.12	.....
Expenses per mile	5,262.60	5,015.48	247.12	.....
Net earnings per mile	2,081.10	2,120.10	.....	39.00
Percentage of expenses to earnings	71.66	70.28	.38	.....

MISSOURI, KANSAS, AND TEXAS RAILWAY COMPANY.

This company was organized April 7, 1870, by the consolidation of the Union Pacific Southern Branch, the Tebo and Neosho, the Labette and Sedalia, and the Neosho Valley and Holden railroad companies. The St. Louis and Santa Fé Railroad was purchased at foreclosure sale April 29, 1872, and the Hannibal and Central Missouri was purchased in 1873. Default in the payment of bond interest, due June 1, 1888, led to the appointment, by the United States court, of receivers who, pending reorganization, had possession of the road until June 8, 1891. On July 1, 1891, the present company came into possession of the property.

By the act of Congress approved March 3, 1863, there were granted to the Union Pacific Southern Branch, through the State of Kansas, 1,520,000 acres of land.

Junction City, Kans., and the southern boundary of Kansas, and to Fort Smith when the Indian title is extinguished, are the land-grant termini.

The records of the General Land Office show that to June 30, 1893, there had been patented to the company 797,049.24 acres of land. The records of the General Land Office also show that 5,700 acres of railroad indemnity lands, located in Kansas, have been restored to the public domain.

The company makes no report of the operations of its land department.

The main line of road extends from Hannibal, Mo., to Houston, Tex., a distance of 1,000.10 miles; all of which, except that part of the line from Whitesboro to Fort Worth, Tex. (71.18 miles), is owned. The company also owns 653.28 miles of branch lines and leases 201.24 miles; a total of 1,783.44 miles operated.

The amounts expended for additions and betterments to railway and for construction, during the year, were charged to operating expenses. During the year, 14,857 tons of new steel rails were laid, at a cost of $460,578; and 603,363 oak cross ties placed in the track, at a cost of $195,160.

Steel rails, of from 52 to 66 pounds per linear yard, have been laid on 1,544.93 miles of track. The average number of cross-ties, per mile, is 3,000. There are 1,791 miles of barbed-wire fencing. The road is ballasted with 282.55 miles of stone; 346.34 miles of gravel; 7,694 miles of cinder, and 876.37 miles of earth.

The equipment consists of 55 passenger, 161 freight, and 19 switching locomotives, 163 of which are equipped with Westinghouse brakes. In the passenger service there are 5 chair, 16 first-class, 1 mail, 10 baggage, and 10 express cars; a total of 42. In the freight service there are 157 box, 34 coal, 51 flat, 22 refrigerator, and 29 caboose cars; total, 293. In the road and miscellaneous service there are 100 dump, gravel and construction, and 3 boarding cars.

The express business on the company's lines is transacted by the American Express Company under contract. The Wagner Palace Car Company runs its cars over the company's lines on a mileage basis. Contracts and agreements, relative to transportation, leases, and joint use of tracks, have been entered into with the following companies: Wabash, Texas and Pacific and Missouri Pacific Railway companies.

The following statements show the financial condition of the company on June 30, 1893:

ASSETS.

Road, fixtures, and equipment		$127,606,524.00
Real estate, other than road		1,733.50
Land contracts, land cash, etc		1,027.87
Fuel, material, and stores on hand		350,654.91
Bills receivable		938.00
Accounts receivable		536,669.17
Due from other companies on account of traffic		128,032.29
Due from United States Post-Office Department		70,064.90
Suspense accounts		22,058.93
Payment for equipment purchased by receivers		437,041.40
Cash on hand		567,346.41
Total		$129,722,091.38

LIABILITIES.

First-mortgage bonds	$44,975,000.00
Interest on same, due and unpaid	140,495.00
Interest on same accrued, not due	300,134.14
Other funded debt	20,000,000.00
Accounts payable	1,474,137.38
Pay rolls and vouchers	805,777.63
Sundries	27,885.74
Total	67,723,429.89
Capital stock	61,770,000.00
Total stock and debt	$129,493,429.89
Surplus	228,661.49

Revenue and expenditures for the year ended June 30, 1893.

REVENUE.

Earnings	$10,388,191.24

EXPENDITURES.

Operating expenses and taxes	$7,810,734.80	
Interest on first-mortgage bonds	1,909,443.34	
Interest on other funded debt	450,000.00	
Total		10,170,178.14
Surplus		218,013.10

Comparative statement of the earnings and expenses of the Missouri, Kansas, and Texas Railway Company.

	Year ended—		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$1,896,987.31	$1,870,269.23	$26,718.08	.....
Freight	7,876,356.80	7,319,911.77	556,445.03	.....
Mail	272,966.57	273,390.20	.....	$423.63
Express	156,595.47	143,159.41	13,436.06	.....
Miscellaneous	185,285.09	143,832.99	41,452.10	.....
Total	10,388,191.24	9,750,563.60	637,627.64	.....
EXPENSES.				
Maintenance of way and structures	1,992,645.21	1,686,933.79	305,711.42	.....
Maintenance of equipment	880,839.55	674,390.24	215,449.31	.....
Conducting transportation	3,567,710.90	3,658,065.33	.....	90,354.43
General expenses	1,173,833.46	1,298,104.39	.....	124,270.93
Total	7,624,029.12	7,317,493.75	306,535.37	.....
Net earnings	2,764,162.12	2,433,069.85	331,092.27	.....
Average miles operated	1,783.44	1,670.37	113.07	.....
Earnings per mile	$5,824.80	$5,837.36	.....	$12.56
Expenses per mile	4,274.90	4,380.76	.....	105.86
Net earnings per mile	1,549.90	1,456.60	$93.30	.....
Percentage of expenses to earnings	73.39	75.05	.....	1.66

NORTHERN PACIFIC RAILROAD COMPANY.

This company was chartered in 1864. The road was begun in July, 1870, and opened from Ashland, Wis., to Portland, Oregon, September 9, 1883.

By the act of Congress approved July 2, 1864, there were granted to the company by the United States, 47,000,000 acres of land in aid of construction.

Ashland, Wis., and Portland, Oregon, via Tacoma, Wash.; Wallula Junction and Pasco Junction are the land-grant termini.

The records of the General Land Office show that, to June 30, 1893, there had been patented to the company:

	Acres.
By the United States, direct	2,224,346.13
Through the State of Minnesota	1,534,699.28
Through the State of North Dakota	1,453,043.66
Through the State of Washington	151,334.00
Total	5,363,423.07

The records of the General Land Office also show that 8,946,400 acres of railroad indemnity lands, located in Wisconsin, Minnesota, Dakota Montana, Idaho, Washington, and Oregon, have been restored to the public domain; and that, by a decision of the Commissioner, dated September 13, 1886, affirmed by the Secretary of the Interior, 32,400 acres of the grant, located in Washington, have also been restored.

The report of the company shows that, to June 30, 1893, the total number of acres received by patent was 2,028,527.50, and by certification, 20,327,623.77; a total of 22,356,201.27 acres. There had been disposed of for cash 8,386,588.03 acres; the total cash receipts from all sales had amounted to $32,719,974.14, and there remained outstanding, on account of time sales, the sum of $5,079,651.77, principal and interest. The receipts of the land department for the year amounted to $1,660,224.66 and the expenses to $577,643.82.

The main line of road extends from Ashland, Wis., to Portland, Oregon, and from Pasco to Wallula Junction, Wash., a distance of 2,136.24 miles. By the addition of branch lines and spurs, the mileage is increased to 4,622.84. There are also 686.60 miles of sidings, or a total length of track of 5,374.06 miles.

The ballast consists of 23 miles of stone, 1,276 miles of gravel, 97.60 miles of cinder and the remainder of earth. The fencing against stock amounted to 1,833.33 miles of barbed wire and board fence, and the snow fences to 95.53 miles. There are 32 snow sheds, aggregating 13,169 feet in length, and 30 tunnels, aggregating 28,338 feet in length.

There were constructed during the year 56.68 miles of branch lines, and there were placed in the track 13,385.76 tons of steel rails and 722,344 new cross ties. The expenditures for additions and betterments to the railway amounted to $1,034,420.56.

The equipment consists of 556 locomotives, 537 of which are equipped with Westinghouse brakes; 26 dining, 50 sleeping, 69 first-class, 61 second-class, 39 emigrant, 12 mail, 44 baggage, 25 express, 59 combination, and 16 officers' cars, making a total of 401 cars in the passenger service, all of which are equipped with Westinghouse brakes and Miller platforms. In the freight service there are 7,380 box, 999 stock, 2,008 coal, 3,869 flat, 6 tank, 2 ferry, 219 refrigerator, 30 fruit, 214 loggingtruck, and 324 caboose cars, making a total of 15,051 cars in this service, 10,452 of which are equipped with Westinghouse brakes, and 4,295 with Miller platforms. In road repair service there are 95 boarding, 16 wrecking, 12 dump, gravel, and construction, and 1,418 push and hand cars, 10 derricks, 16 steam shovels, and 7 snow plows. There were added to the equipment during the year 9 passenger and 171 freight and miscellaneous cars.

The express business on the company's line of road is transacted by the Northern Pacific Express Company, under contract.

Sleeping cars are owned jointly by the railroad and the Pullman Palace car companies.

Contracts and agreements for exchange of business at Wallula and Tacoma have been entered into with the Oregon Railway and Navigation, the Oregon and Washington, the Northern Pacific Steamship, and the Pacific Coast Steamship companies.

Lease for use of tracks, St. Paul to Minneapolis, and at Portland, and for use of depot at Minneapolis and St. Paul, have been granted to the Great Northern Railroad, the Northern Pacific Terminal, the Minneapolis Union Railroad, and the St. Paul Union Depot companies.

A contract with the Western Union Telegraph Company, for the building and joint operation of a telegraph line, is in force.

The following statements show the financial condition of the company on June 30, 1893:

LIABILITIES.

Funded debt	$133,545,500.00	
Interest on same due July 1, 1893	1,492,760.37	
Interest on same, accrued, not due	621,005.00	
Rentals due July 1, 1893	228,640.00	
Rentals and taxes, accrued, not due	414,066.41	
Deferred payments on land sales	2,643,085.74	
Guaranty to branch roads	594,892.04	
Dividends unpaid	7,144.00	
Bills payable	7,068,267.60	
Pay rolls and vouchers	4,393,606.61	
Suspense account	4,764.14	
Total debt		$151,013,731.91
Capital stock		85,140,131.42
Total stock and debt		236,153,863.33

ASSETS.

Cost of road and fixtures	$188,935,846.85	
Cost of equipment	21,930,407.78	
Fuel, material, and stores on hand	1,366,496.69	
Cash on hand	1,144,482.01	
Stocks and bonds	17,469,716.01	
Contingent assets	824,041.19	
Cash in hands of trustee	203,886.22	
Deferred payments on account of land sales	5,079,651.77	
Bills receivable	193,544.94	
Accounts receivable	6,832,189.43	
Due from other companies on account of traffic	187,120.27	
Cash in hands of trustees' sinking fund	505,271.57	
Total assets		$244,672,754.73
Surplus		8,518,891.40

Revenue and expenditures for the year ended June 30, 1893.

REVENUE.

Earnings	$24,135,186.03	
Dividends on stocks of other companies	684,509.40	
Interest on bonds of other companies	133,460.63	
Profits on miscellaneous investments	420,267.17	
Receipts of the land department applicable to sinking fund	704,251.00	
Total		$26,077,674.23

EXPENDITURES.

Operating expenses	14,621,466.47	
Interest on funded debt	7,092,159.72	
Interest on other debt	499,715.57	
Advances to subsidiary lines	1,053,866.62	
Rentals	1,962,078.19	
Taxes	462,340.26	
Other deductions	157,765.11	
Sinking-fund requirements	1,117,537.97	
Total		26,966,929.91
Deficit		889,255.68

Comparative statement of the earnings and expenses of the Northern Pacific Railroad Company.

	Year ended—		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$5,864,669.18	$6,257,366.74	.....	$392,697.56
Freight	16,818,091.38	17,207,329.85	.....	389,238.47
Mail	538,129.02	529,011.00	$9,118.02	.....
Express	366,726.70	382,070.79	.....	15,344.09
Miscellaneous	332,492.40	285,679.11	46,813.29	.....
Total	23,920,108.68	24,661,457.49	.....	741,348.81
EXPENSES.				
Maintenance of way and structures	3,711,561.12	3,782,731.19	.....	71,170.07
Maintenance of equipment	2,342,947.29	2,014,413.26	328,534.03	.....
Conducting transportation	6,773,147.87	6,874,356.05	.....	101,208.18
General expenses and taxes	2,106,455.61	1,905,849.22	200,606.39	.....
Total	14,934,111.89	14,577,349.72	356,762.17	.....
Net earnings	8,985,996.79	10,084,107.77	.....	1,098,110.98
Average miles operated	4,494.84	4,411.90	82.94	.....
Earnings per mile	$5,321.68	$5,589.76	.....	$268.08
Expenses per mile	3,322.50	3,304.09	$18.41	.....
Net earnings per mile	1,999.18	2,285.67	.....	286.49
Percentages of expenses to earnings	62.43	59.11	3.32	.....

NOTE.—On motion of the Farmers' Loan and Trust Company, of New York, and sundry copartners comprising the firm of W. C. Sheldon & Co., Judge Lacombe, of the United States circuit court, on August 15, 1893, appointed as receivers of the Northern Pacific Railroad Company, Thomas F. Oakes, president of the company; Henry C. Payne, of Milwaukee, and Henry C. Rouse, president of the Missouri, Kansas and Texas Railway Company. The receivership embraces the Northern Pacific Railroad Company and all the railroads owned, leased, and controlled by the said corporation. The action in question is alleged to be due to the money stringency consequent upon the extraordinary depression of business and the stoppage of shipments along the line of road. Money is tied up by bank failures, and the marketing of crops, cattle, and products of all kinds has been practically suspended.

Judge Jenkins, of the Federal court of Milwaukee, October 14 granted the application of the receivers for authority to ratify the lease made December 14, 1892, by the Northern Pacific Terminal Company of Oregon to the Northern Pacific Railroad Company, the Oregon Railway and Navigation Company, and the Oregon and California Railway Company. The receivers are also authorized to ratify the agreement entered into June 3, 1890, between the terminal company, the Northern Pacific, the Oregon Short Line, the Utah Northern, and the Southern Pacific. This enables the work of completing the extensive terminals at Portland to proceed. So far the sum of $332,500 has been spent upon the terminals. The lease is for the period of fifty years, and the rental is a sum sufficient to pay the interest and sinking-fund charges, taxes, and assessments. Judge Jenkins's order directs the receivers to pay the terminal company the sum of $24,500, now due, and also monthly installments of $5,000, to become due under the contracts. The receivers are to take the terminal company's bonds at 90 and hold them as part of the trust estate. Alexander McKenzie, of Bismarck, N. Dak., and Henry Stanton, of New York, were on October 13 appointed receivers of the Duluth and Manitoba, running from Winnipeg Junction to Winnipeg, a distance of 265 miles, and the Northern Pacific, Fergus Falls and Black Hills, known as the Wadena Branch of the Northern Pacific. These are the same receivers recently appointed for the branch lines in North Dakota.—(The Railway Age, October 20, 1893.)

OREGON AND CALIFORNIA RAILROAD COMPANY.

(SOUTHERN PACIFIC COMPANY.)

This company was chartered March 17, 1870, as a successor of the Oregon Central Railroad Company, of Salem, which was organized April 22, 1867. The main line, from Portland to Roseburg, 199 miles, was opened December 5, 1872. The road is leased for forty years from July 1, 1887, to the Southern Pacific Company, which pays the interest on the company's bonds and all current fixed charges; also, if earned, dividends up to 7 per cent on preferred and 6 per cent on common stock, the surplus over those payments to be retained by the lessee.

By the acts of Congress approved May 4, 1870, and July 25, 1866, there were granted by the United States, to aid in the construction of this road, 4,700,000 acres of land. Roseville Junction, Cal., and Portland, Oregon, are the land-grant termini.

The records of the General Land Office show that to June, 30, 1893, there had been patented to the company 614,549.30 acres. The records of the General Land Office also show that to the same date 810,880 acres of the grant of July 25, 1866, and the whole of the grant of May 4, 1870 (1,200,000 acres), had been forfeited by the company, and that 1,800,000 acres of railroad indemnity lands, located in Oregon, had been restored to the public domain.

The report of the company shows that to June 30, 1893, the total number of acres received by patent was 323,068.68; that the total cash receipts from all sales had amounted to $859,477.34, and that there remained outstanding on account of time sales the sum of $861,923.64, principal and interest. The receipts of the land department for the year were $73,940.55, and the expenses $75,570.07.

The main line of this road extends from Portland, Oregon, to the California State line, a distance of 366.80 miles, and forms part of the through line of the Southern Pacific Company to San Francisco. Branch lines extend from Portland to Corvallis, 96.50 miles; from Albany Junction to Lebanon, 11.50 miles; and from Woodburn to Natron, 92.70 miles. There are 41.69 miles of sidings on the main line and 22.35 miles of sidings on the branch lines. The total length of track owned and operated is 631.54 miles.

Steel rails are laid upon 516.89 miles and iron rails upon 78.80 miles of track. There are 131.22 miles of barbed wire and board fencing. The average number of cross-ties per mile is 2,806. There were 288 tons of new steel rails laid during the year at a cost of $13,214.82; and 195,510 new fir cross-ties placed in the track at a cost of $15,117.

The cost of additions and betterments to railway during the year amounted to $10,352.08, and to rolling stock, $2,868.64.

The assessed valuation of roadway, bridges, track, buildings, etc., for taxation is $2,549,618, and of rolling stock and equipment, $352,650.40.

The equipment consisted of 51 locomotives, 49 of which were equipped

with Westinghouse brakes. In the passenger service there were 6 sleeping, 32 first-class, 2 second-class, 9 mail, baggage, and express, 9 baggage, 3 express, and 3 combination cars; total, 64, all of which are equipped with Westinghouse brakes and Miller platforms. In the freight service there were 444 box, 22 stock, 8 furniture, 314 flat, 50 combination, 23 fruit, and 14 caboose cars; total 875. Of this number 262 are equipped with Westinghouse brakes, and 23 with Miller platforms. In the road and miscellaneous service there were 1 derrick tender, 2 pile-drivers, 1 station and 33 dump cars.

The following statements show the financial condition of the company on June 30, 1893:

LIABILITIES.

First mortgage bonds	$17,045,000.00	
Dividends unpaid	2,045.73	
Accounts payable	287,011.16	
Income for redemption of bonds	489,998.99	
Total debt		$17,824,055.88
Capital stock		19,000,000.00
Total stock and debt		36,824,058.88

ASSETS.

Road, fixtures, and equipment	35,037,145.81	
Real estate, other than road	37,786.67	
Land contracts, land cash, etc	670,984.26	
Cash on hand	10.62	
Sinking fund in hand of trustees—company	51,178.47	
Bills receivable	744.00	
Accounts receivable	18,158.70	
Total		35,816,008.53
Deficit		1,008,047.35

Revenue and expenditures for the year ended June 30, 1893.

REVENUE.

Receipts of the land department	$105,316.72	
Miscellaneous	678.42	
Transferred to debit of income for redemption of bonds	51,087.22	
Total		$157,082.36

EXPENDITURES.

Net loss in operation under lease in year ended December 31, 1892	441,180.14	
Interest	24,750.00	
Expenses of the land department	75,570.07	
Sundry expenses	4,328.02	
Total		545,828.23
Deficit		388,745.87

Comparative statement of the earnings and expenses of Oregon and California Railroad Company.

	Year ended—		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$1,015,562.27	$1,037,773.78	.....	$22,211.51
Freight	839,448.36	902,351.41	.....	62,903.05
Mail	90,124.26	89,274.00	$850.26	.....
Express	41,035.84	40,431.67	604.17	.....
Miscellaneous	23,917.01	28,691.80	.....	4,774.79
Total	2,010,087.74	2,098,522.66	.....	88,434.92
EXPENSES.				
Maintenance of way and structures	554,389.35	619,912.27	.....	65,522.92
Maintenance of equipment	153,254.93	188,194.70	.....	34,939.77
Conducting transportation	614,201.54	714,616.34	.....	100,414.80
General expenses and taxes	207,621.41	199,857.36	7,764.05	.....
Total	1,529,467.23	1,722,580.67	.....	193,113.44
Net earnings	480,620.51	375,941.99	104,678.52	.....
Average miles operated	567.50	564.93	2.57	.....
Earnings per mile	3,542.00	3,714.66	.....	172.66
Expenses per mile	2,695.09	3,049.19	.....	354.10
Net earnings per mile	846.91	665.47	181.44	.....
Percentage of expenses to earnings	76.09	82.08	.....	5.99

ST. JOSEPH AND GRAND ISLAND RAILROAD COMPANY.

(UNION PACIFIC RAILWAY COMPANY.)

This company is a consolidation of the St. Joseph and Marysville and the Grand Island and Marysville Railroad Companies, organized in the States of Kansas and Nebraska. The property of the company includes the St. Joseph Bridge Building Company's bridge at St. Joseph and the entire line between St. Joseph, Mo., and Grand Island, Nebr.

By the act of Congress approved July 23, 1866, there were granted to the St. Joseph and Denver City Railroad Company (St. Joseph and Marysville), through the State of Kansas, to aid in the construction of the road, 1,700,000 acres of land. St. Joseph, Mo., and Grand Island, Nebr., are the land-grant termini. The records of the General Land Office show that, to June 30, 1893, there had been patented to the company 462,573.24 acres.

The company makes no report of the operations of its land department. The property was placed in the hands of a receiver in 1874, and the road sold in foreclosure November, 1875. Of the land grant, 300,000 acres were placed in the hands of trustees, for the benefit of the holders of land scrip.

The main line of the road extends from St. Joseph, Mo., to Grand Island, Nebr., a distance of 251.06 miles. Since January 1, 1890, it has been operated as a part of the Union Pacific system, the latter com-

pany having a proprietary interest in the ownership of $2,301,500 of the capital stock. The former company, first applying its net earnings and income, is guaranteed by the latter company a fixed income.

The entire road is laid with steel rails. Two hundred and sixty tons of new rails were laid during the year, at a cost of $8,737; and 73,282 oak cross ties placed in the track, at a cost of $39,572.35.

The equipment consists of 13 passenger, 12 freight, and 1 switching locomotives, 25 of which are equipped with Westinghouse brakes. In the passenger service there are 6 first-class, 6 baggage, 5 combination, and 1 officers' cars; total, 18. In the freight service there are 483 box, 90 stock, 41 coal, 25 flat, and 12 caboose cars; total, 651. In the road and miscellaneous service there are 1 derrick, 2 snow-plows, 2 boarding, 37 hand, and 37 push cars.

The express business on the company's lines is transacted by the Pacific Express Company; and the telegraph business by the Western Union Company.

Sundry contracts and agreements, relative to terminal facilities, leases, interchange of traffic, and joint use of tracks, have been entered into with other companies, as follows: St. Joseph Terminal Railroad Company; St. Joseph Union Depot Company; Union Pacific Railway Company and Kansas City and Omaha Railroad Company; Kansas City, Wyandotte and Northwestern Railroad Company.

The following statements show the financial condition of the company on June 30, 1893:

LIABILITIES.

First-mortgage bonds		$6,998,000.00
Interest on same, due and accrued		6,815.00
Interest on same, accrued, not due		70,000.00
Certificates for first-mortgage bonds		21,126.57
Other funded debt		1,679,000.00
Interest on same, due and unpaid		530.00
Certificates for second-mortgage bonds		23,279.17
Accounts payable		419,360.63
Construction contract, Kansas City and Omaha Railroad Company		82,600.00
Total		9,300,711.37
Capital stock		4,600,000.00
Total stock and debt		$13,900,711.37

ASSETS.

Road, fixtures, and equipment	13,244,266.33	
Stocks and bonds owned by company	97,800.00	
Accounts receivable	194,235.40	
Trustees equipment and improvement fund	12,231.32	
Total		13,548,533.05
Deficit		352,178.32

Revenue and expenditures for the year ended June 30, 1893.

REVENUE.

Earnings	$1,103,656.11	
Interest on company's bonds	120.00	
Discount and interest	3,074.37	
Profit and loss	57,595.62	
Total		$1,164,446.10

EXPENDITURES.

Operating expenses	698,560.35	
Taxes	59,542.37	
Interest on first-mortgage bonds	420,000.00	
Miscellaneous expenses	2,880.50	
Kansas City and Omaha Railroad guaranty	61,091.29	
New construction	2,849.57	
New equipment	700.00	
Total		1,245,624.08
Deficit		81,177.98

Comparative statement of the earnings and expenses of the St. Joseph and Grand Island Railroad Company.

	Year ended—		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$187,178.44	$174,430.54	$12,747.90	.....
Freight	833,017.97	741,081.98	91,935.99	.....
Mail	26,686.20	26,686.20	.....	.....
Express	15,751.62	14,903.65	847.97	.....
Miscellaneous	41,021.88	33,566.98	7,454.90	.....
Total	1,103,656.11	990,669.35	112,986.76	.....
EXPENSES.				
Maintenance of way and structures	146,514.28	175,270.12	.....	$28,755,84
Maintenance of equipment	84,699.32	100,639.30	.....	15,939.98
Conducting transportation	354,922.74	300,611.77	54,310.97	.....
General expenses and taxes	171,966.38	124,407.16	47,559.22	.....
Total	758,102.72	700,928.35	57,174.37	.....
Net earnings	345,553.39	289,741.00	55,812.39	.....
Average miles operated	251.06	251.06	.....	.....
Earnings per mile	$4,395.99	$3,945.94	$450.05	.....
Expenses per mile	3,019.60	2,791.87	227.73	.....
Net earnings per mile	1,376.39	1,154.07	222.32	.....
Percentage of expenses to earnings	68.69	70.75	.....	2.06

SAINT LOUIS, IRON MOUNTAIN AND SOUTHERN RAILWAY COMPANY

(MISSOURI PACIFIC RAILWAY COMPANY.)

This company was organized by the consolidation, May 6, 1874, of the St. Louis and Iron Mountain, the Arkansas Branch, the Cairo and Fulton and the Cairo, Arkansas, and Texas Railroad companies. The main line, which extends from St. Louis, Mo., to Texarkana, Tex.,

was opened in 1874. In 1881 the Missouri Pacific Railway Company acquired the ownership of the property.

By the act of Congress approved February 9, 1853, there were granted to the Cairo and Fulton Railroad, through the States of Missouri and Arkansas, 1,178,411.05 acres of land, all of which has been patented to the company.

The records of the General Land Office fail to show a grant of land to any other of the roads named above; but, under "forfeitures" (Land Office Report, 1888, p. 109) it is stated that "by the act of June 28, 1884, the grant to the Iron Mountain of 601,600 acres, from Pilot Knob, Mo., to Helena, was forfeited, and 10,000 acres of railroad indemnity lands, located in Missouri, and 5,000 acres, located in Arkansas, have been restored."

Under this head, Poor's Manual of the Railroads of the United States (1875–'76, p. 615) contains the following: "The company (St. Louis, Iron Mountain and Southern) is in possession of a land grant from the United States Government, under acts of June 10, 1852, and February 9, 1853, estimated to amount, in Missouri to 388,540 acres, and in Arkansas to 1,415,408 acres."

The company reports upon the operations of its land department in two divisions, namely, the Arkansas and Missouri divisions. The report shows that the land acquired by these two divisions, was 1,392,933.50 acres, all of which had been patented to the company.

The gross cash receipts from all sales of land to date, were (partly estimated) $2,636,284.60, and the amount outstanding on account of time sales, $299,224.01.

The receipts of the land department during the year amounted to $133,703.93 and the expenses to $53,422.26.

There have been sold from the grant 725,625.36 acres.

The main line of this road extends from St. Louis, Mo., to Texarkana, Ark., a distance of 489.78 miles. The company also owns and leases 1,280.37 miles; a total of 1,770.15 miles operated. There are 10.27 miles of double track, and 359.61 miles of sidings. Steel rails of from 52 to 76 pounds per yard, are laid on 1,584.10 miles of track; the average number of rails per mile being 2,828. There were 3,958 tons of new rails laid during the year at a cost of $136,796.78, and 873,422 new oak cross-ties placed in the track, at a cost of $291,365.36. There are 1,471 miles of barbed-wire fencing. There are 39.97 miles of track is ballasted with stone, 418.59 miles with gravel, 77.51 miles with cinder, and 1,234.08 miles with earth. Additions and betterments to railway and equipment were effected through expense accounts, no separate improvement account being kept. The equipment consists of 44 passenger, 91 freight, and 39 switching locomotives, all equipped with Westinghouse brakes. In the passenger service, there are 31 first-class, 20 second-class, 10 mail, 41 baggage and express, 12 combination, and 3 officers' cars; total 117, all equipped with Westinghouse brakes and Miller platforms.

The freight service consists of 2,239 box, 373 stock, 810 coal, 481 flat, 110 refrigerator, and 113 caboose cars; total 4,126. In the road and miscellaneous service there are 4 derricks, 7 dump, 20 boarding, 11 wrecking, 334 hand, and 317 push cars.

The express business on the company's line of road is transacted by the Pacific Express Company, under contract dated May 1, 1886, the railroad company receiving a percentage of the gross earnings.

The Pullman Palace Car Company runs its sleeping cars under contract, dated November 1, 1886, on a mileage basis.

The telegraph business is transacted by the Western Union Company, under contract.

This company leases the Little Rock and Fort Smith Railway, one of the original roads coming under the jurisdiction of this bureau, the earnings and expenses of which are merged with those of the lessee company.

By the act approved February 9, 1853, there were granted to the Little Rock and Fort Smith Railway Company 1,100,000 acres of land. The records of the General Land Office show that to June 30, 1893, there had been patented to the company 1,057,647.55 acres. The lessee company makes a separate report of the operations of the land department of the Little Rock and Fort Smith Railway Company as follows: Total number of acres acquired by United States patent, 1,057,762.79; the number of acres sold from the grant, 528,858.18; the total cash receipts from all sales, to date, $659,074.98, and the amount outstanding on account of time sales, $328,517.32; the receipts during the year were $41,196.03, and the expenses $28,715.61.

The following statements show the financial condition of the company on June 30, 1893:

ASSETS.		
Road, fixtures and equipment	$63,597,030.03	
Real estate other than road	525,894.89	
Land contracts, land cash, etc	2,084,069.30	
Company's stocks and bonds owned by company, other stocks and bonds and miscellaneous investments	8,655,925.01	
Bills receivable	25,872,64	
Accounts receivable	927,956.05	
Cash on hand	13,402.72	
Total		$75,830,150.64
LIABILITIES.		
Funded debt	42,302,376.21	
Interest on same, due and unpaid	239,067.16	
Interest on same, accrued, not due	507,505.70	
Bills payable	572,487.39	
Accounts payable	2,565,947.97	
Total debt	46,187,384.43	
Capital stock	25,788,925.00	
Total stock and debt		71,976,309.43
Surplus		3,853,841.21

Revenue and expenditures for the year ended June 30, 1893.

REVENUE.

Earnings	$12,402,529.89	
Dividends on stocks of other companies	1,340.00	
Interest on bonds of other companies	1,750.00	
Discount and premium	9,548.28	
Sundry amounts	24,215.44	
Total		$12,439,383.61

EXPENDITURES.

Operating expenses, rentals and taxes	9,312,929.73	
Interest on funded debt	2,339,884.58	
Interest on other debt	18,805.19	
Expenses of traffic association	6,159.10	
Compensation retained by United States on account of land grant	14,188.03	
Sundry amounts	150,709.95	
Total		11,842,676.58
Surplus		596,707.03

Comparative statement of the earnings and expenses of the St. Louis, Iron Mountain and Southern Railway Company.

	Year ended--		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$2,175,540.72	$2,104,729.34	$70,811.38	.....
Freight	9,338,839.71	8,690,487.22	648,352.49	.....
Mail	287,979.54	278,439.06	9,540.48	.....
Express	257,962.39	225,236.32	32,726.07	.....
Miscellaneous	342,207.53	310,190.02	32,017.51	.....
Total	12,402,529.89	11,609,081.96	793,447.93	.....
EXPENSES.				
Maintenance of way and structures	2,061,417.69	1,995,642.71	65,774.98	.....
Maintenance of equipment	1,479,253.20	1,355,023.48	124,229.72	.....
Conducting transportation	4,501,187.12	4,199,919.76	301,267.36	.....
General expenses	599,964.20	565,237.45	34,726.75	.....
Total	8,641,822.21	8,115,823.40	525,998.81	.....
Net earnings	3,760,707.68	3,493,258.56	267,449.12	.....
Average miles operated	1,770.15	1,641.12	128.93	.....
Earnings per mile	$7,006.48	$7,073.87	.....	$67.39
Expenses per mile	4,881.97	4,945.22	.....	63.25
Net earnings per mile	2,124.51	2,128.65	.....	4.14
Percentage of expenses to earnings	69.67	69.91	0.24	.....

ST. LOUIS AND SAN FRANCISCO RAILWAY COMPANY.

(ATCHISON, TOPEKA AND SANTA FE RAILROAD COMPANY.)

This company is the successor to the Southwest Branch of the Pacific Railroad of Missouri, chartered December 25, 1852. (For history, see Atlantic and Pacific and Missouri Pacific railway companies.)

The records of the General Land Office show that by the act of June 10, 1852, there were granted to the Southwest Branch of the Pacific Railroad of Missouri 1,161,235.07 acres of land, of which 728,949.36 acres had been patented to June 30, 1893.

The company has failed to make any report of the operations of its land department.

The main line of the road extends from St. Louis, Mo., to Seneca, Mo., a distance of 326.28 miles. There are various branches in Missouri, Arkansas, and Kansas, aggregating 719.91 miles in length, making a total of 1,046.19 miles owned. The company also leases 281.98 miles of branch lines; a total of 1,328.17 miles owned, leased, and operated. There are 79.19 miles of sidings on the main line and 135.18 miles on the branches. Steel rails are laid upon 1,350.15 miles of track and iron rails upon 192.41 miles.

During the past year 2,930 tons of steel rails were laid, at a cost of $98,783.98, and 506,885 new cross-ties placed in the track, at a cost of $153,583.67. The expenditures for additions and betterments to the railway amounted to $147,939.83 and for new equipment to $324,679.56.

The equipment consists of 195 locomotives, 23 chair, one-half interest in 7 sleeping, 23 first-class, 26 second-class, 34 baggage, mail and express, 26 combination and 3 officers' cars, making a total of 126 cars in the passenger service. In the freight service there are 2,413 box, 901 stock, 2,060 coal, 17 flat, 60 short mining, 1 furniture, 50 refrigerator and 94 caboose cars, making a total of 5,596 cars in this service. In road-repair service there are 1 wrecking, 3 derrick, 3 boarding and 163 dump, gravel, and construction cars.

The express business on the company's line of road is transacted by Wells, Fargo & Co., under contract.

Seeping cars are run by the Pullman Palace Car Company on a mileage basis.

The following statements show the financial condition of the company on June 30, 1893:

LIABILITIES.

First-mortgage bonds	$42,686,300.00	
Interest on same, due and accrued	627,944.00	
Interest on same, accrued, not due	382,867.89	
Bonds retired and canceled	1,586,000.00	
Bills payable	448,651.44	
Accounts payable	2,261,481.09	
Pay rolls and vouchers	19,967.93	
Due other companies on account of traffic	47,209.63	
Total debt		$48,060,421.98
Capital stock		50,000,000.00
Total stock and debt		98,060,421.98

ASSETS.

Road, fixtures, and equipment	$66,773,504.66	
Fuel, material, and stores on hand	411,854.60	
Cash on hand	438,163.28	
Company's stocks and bonds owned by company	23,640,700.00	
Other stocks and bonds	4,382,002.21	
Miscellaneous investments	430,157.88	
Bills and accounts receivable	5,859,873.53	
Due from other companies on account of traffic	29,498.57	
Suspense accounts	317,914.48	
Total		$102,283,669.21
Surplus		4,223,247.23

Revenue and expenditures for the year ended June 30, 1893.

REVENUE.

Earnings	$7,542,657.73	
Profits on stocks, bonds, and miscellaneous investments	162,096.93	
Total		$7,704,754.66

EXPENDITURES.

Operating expenses and taxes	4,778,489.03	
Interest on funded debt	2,430,799.15	
Other deductions	11,546.90	
Total		7,220,835.08
Surplus		483,919.58

Comparative statement of the earnings and expenses of the St. Louis and San Francisco Railway Company.

	Year ended—		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$1,415,509.29	$1,380,066.01	$35,443.28	.....
Freight	5,407,539.67	5,021,458.35	386,081.32	.....
Mail	181,009.04	180,951.11	57.93	.....
Express	192,111.64	132,509.08	59,602.56	.....
Miscellaneous	346,488.09	338,243.65	8,244.44	.....
Total	7,542,657.73	7,053,228.20	489,429.53	.....
EXPENSES.				
Maintenance of way and structures	827,090.82	746,310.69	80,780.13	.....
Maintenance of equipment	717,976.66	702,286.66	15,690.00	.....
Conducting transportation	2,396,496.68	2,095,570.27	300,926.41	.....
General expenses and taxes	836,924.87	798,756.73	38,168.14	.....
Total	4,778,489.03	4,342,924.35	435,564.68	.....
Net earnings	2,764,168.70	2,710,303.85	53,864.85	.....
Average miles operated	1,328.17	1,328.17	.....	.....
Earnings per mile	$5,678.98	$5,310.49	$368.49	.....
Expenses per mile	3,597.80	3,269.86	327.94	.....
Net earnings per mile	2,081.18	2,040.63	40.55	.....
Percentage of expenses to earnings	63.25	61.57	1.74	.....

ST. PAUL AND DULUTH RAILROAD COMPANY.

This company is successor, by reorganization, to the Lake Superior and Mississippi Railroad Company. The original charter under which the road was built was granted to the Nebraska and Lake Superior Railroad Company May 23, 1857, the terminal points of that line being the west end of Lake Superior and the Nebraska line. By amendatory act of March 8, 1861, the name was changed to Lake Superior and Mississippi Railroad Company, the route being at the same time changed so as to terminate at the Mississippi River, with a right to extend to the Minnesota River; the construction of a branch line to the St. Croix River was also authorized.

By the acts of Congress approved May 5, 1864, and July 13, 1886, there were granted to the company, through the State of Minnesota, 920,000 acres of land. St. Paul, Minn., and Duluth, Minn., are the land-grant termini.

The records of the General Land Office show that, to June 30, 1893, there had been patented to the company 828,581 acres of land. The records of the General Land Office also show that 8,000 acres of railroad indemnity lands belonging to the company, located in Minnesota, had been restored to the public domain.

The company reports that to June 30, 1893, it had received from the United States 816,083.55 acres and from the State of Minnesota 690,333 acres, making a total of 1,506,416.55 acres of land; that 413,236.41 acres had been sold, the total cash receipts from all sources amounting to $1,947,982.74; and that there remained outstanding, on account of time sales, the sum of $117.693.65.

The main line of this road extends from St. Paul to Duluth, Minn., a distance of 155 miles. The company also owns 28.50 miles and leases 63.94 miles of branch lines, making a total of 239.24 miles operated. That portion of the line between Carlton and Duluth, 23.50 miles in length is owned jointly with the Northern Pacific Railroad Company, 8.20 miles of which were not used during the year.

There are 16.50 miles of double track, 90.31 miles of sidings on the main line, and 18.49 miles of sidings on the branches. The entire main line is laid with steel rails. The ballast consists of 148.34 miles of gravel and 99.10 miles of earth.

During the year there were laid 1,974 tons of steel rails, at a cost of $60,128.04, and 99,956 new cross-ties were placed in the track, at a cost of $23,489.66. The expenditures for additions and betterments amounted to $121,471.65, of which there were charged to improvement, construction, and equipment fund $112,000, and $9,471.65 to cost of road.

The equipment consists of 67 locomotives, 56 of which are equipped with Westinghouse brakes, 7 sleeping, 6 chair, 21 first class, 14 second class, 3 mail, 6 baggage, 14 combination, and 2 officers' cars, making a

total of 73 cars in the passenger service, all of which are equipped with Westinghouse breaks and Miller platforms. In the freight service there are 1,927 box, 5 stock, 25 coal, 353 flat, 9 refrigerator, 18 furniture, and 22 caboose cars, a total of 2,359 cars. There are also 67 hand, 51 push and 2 boarding cars; 1 pile driver, 1 derrick, 1 bridge repair car, 1 snow plow, and 1 engine in road repair and miscellaneous service.

The following statements show the financial condition of the company on June 30, 1893 :

LIABILITIES.

First-mortgage bonds		$1,000,000.00
Second-mortgage bonds		2,000,000.00
Interest on same, due and accrued		225.00
Interest on same, accrued not due		45,833.33
Preferred stock canceled		404,800.00
Bonds guaranteed by company		710,000.00
Interest on same, accrued not due		14,633.33
Dividends unpaid		3,618.25
Accounts payable		57,107.17
Pay rolls and vouchers		211,683.16
Redemption fund preferred stock		173,371,17
Sinking fund for redemption of Taylor's Falls and Lake Superior Railroad bonds		109,693.79
Land accounts, deferred receipts		132,115.90
Land and stumpage income expended prior to July 1, 1888, on improvements, construction, and equipment	690,776.40	
Total debt		$5,553,857.50
Capital stock		9,626,218.11
Capital stock and debt		15,180,075.61

ASSETS.

Road, fixtures, and equipment	12,703,126.94	
Fuel, material, and stores on hand	81,645.26	
Stocks and bonds	1,580,222.79	
Sinking funds in hands of trustees, company	109,673.79	
Land contracts, land cash, etc	132,115.90	
Due from agents and conductors	123,619.59	
Bills receivable	20,448.75	
Due from other companies on account of traffic	54,681.50	
Due from other companies and individuals	22,607.53	
Other assets	132,081.79	
Cash on hand	392,482.11	
Total		15,352.705.95
Surplus		172,630.34

Revenue and expenditures for the year ended June 30, 1893.

REVENUE.

Earnings		$2,105,274.81
Dividends on stocks of other companies		11,549.55
Receipts of the land department		192,999.57
Rentals		28,739.89
Interest and exchange		14,045.09
Award of Commissioners for property taken by the city of Duluth		12,935.00
Total		$2,365,543.91

EXPENDITURES.

Operating expenses	1,427,798.41	
Taxes	68,009.07	
Interest on first-mortgage bonds	50,000.00	
Interest on second-mortgage bonds	100,000.00	
Dividends 21 and 22	355.043,50	
Expenses of the land department	24,670.15	
Redemption of preferred stock	168,329.42	
Rentals	111,828.63	
Other expenditures	68,825.69	
Total		2,374,504.87
Deficit		8,960.96

Comparative statement of the earnings and expenses of the St. Paul and Duluth Railroad Company.

	Year ended —		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$546,351.54	$530,425.47	$15,926.07	.....
Freight	1,512,040.94	1,350,799.99	161,240.95	.....
Mail	21,152.42	21,109.74	42.68	.....
Express	22,500.00	22,500.00	.....	.....
Miscellaneous	3,229.91	9,675.67	.....	$6,445.76
Total	2,105,274.81	1,934,510.87	170,763.94	.....
EXPENSES.				
Maintenance of way and structures	365,151.20	300,363.59	64,787.61	.....
Maintenance of equipment	213,222.48	163,113.26	50,109.22	.....
Conducting transportation	701,977.87	642,339.54	59,638.33	.....
General expenses and taxes	215,455.93	186,107.94	29,347.99	.....
Total	1,495,807.48	1,291,924.33	203,883.15	.....
Net earnings	609,467.33	642,586.54	.....	33,119.21
Average miles operated	247.44	242.75	4.69	.....
Earnings per mile	$8,508.22	$7,969.14	$539.08	.....
Expenses per mile	6,045.13	5,322.03	723.10	.....
Net earnings per mile	2,463.09	2,647.12	.....	184.03
Percentage of expenses to earnings	71.05	66.78	4.27	.....

ST. PAUL, MINNEAPOLIS AND MANITOBA RAILWAY COMPANY.

(GREAT NORTHERN RAILWAY COMPANY.)

The original charter for the construction of this road was granted to the Minnesota and Pacific Railroad Company (afterwards St. Paul and Pacific) May 22, 1857. The line was to extend from Stillwater, via St. Paul and St. Anthony, to Breckinridge, and a branch from St. Anthony, via St. Cloud and Crow Wing, to St. Vincent, with power to extend the main line to any point on the Missouri River north of the forty-fifth parallel, and to build a line from Winona to St. Paul.

By the acts of Congress approved March 3, 1857, and March 3, 1865, there were granted to the Minnesota and Pacific Railroad Company, through the State of Minnesota, 885,000 acres and to the St. Paul and Pacific 1,838,638.95 acres; a total grant of 2,723,638.95 acres of land.

The records of the General Land Office show that, to June 30, 1893, there had been patented to the St. Paul, Minneapolis and Manitoba Railway Company 2,906,760.88 acres; a difference of 183,121.93 acres between the number of acres granted and patented. An explanation of this difference may be found in the following extract from Poor's Manual of Railroads (1884, p. 748): "In 1880–'81 the company (St. Paul, Minneapolis and Manitoba) acquired the charter of the Minneapolis and St. Cloud Railway Company to which was attached a land grant of ten sections per mile," although the records of the General Land Office fail to show a grant of land to the last-named company.

St. Paul, Minn., and Breckinridge, Minn.; St. Paul, via St. Cloud and Barnesville, Minn., and Cape Vincent, Minn.; and East St. Cloud and Sauk Rapids are the land-grant termini.

The report of the company shows that, to June 30, 1893, there had been received by patent through the State of Minnesota, 3,199,578.37 acres; that there had been sold from the grant 2,350,563.38 acres; the total receipts from all sales from the grant amounting to $7,061,051.30. There remained outstanding on account of time sales, the sum of $1,464,661.63. The annual receipts of the land department were $237,296.41 and the expenses $54,128.37.

On January 31, 1890, the property of this company was leased for nine hundred and ninety-nine years to the Great Northern Railway Company, which assumed all its obligations and guaranteed dividends of 6 per cent in gold annually on its capital stock.

The main line of the road extends from St. Paul, Minn., to St. Vincent and Neche, Minn., connecting with lines running into Winnipeg, Manitoba, and westerly from Grand Forks, N. Dak., to Great Falls, Mont., with connections to Helena and Butte. Since the close of the last fiscal year two new lines have been built, one from St. Hilaire to Thief River, Minn., 7.59 miles, completed in October, 1892, and one from St. Hilaire to Red Lake Falls, Minn., 10.13 miles, completed December 1, 1892; also, 3.87 miles of main track in the city

of Minneapolis, and 1.82 miles in the city of St. Paul. The Pacific Coast Extension was completed January 6, 1893. There are 3,709.09 miles of main track, 27.20 miles of second, 9.28 miles of third, 9.29 miles of fourth, 2.32 miles of fifth, and 1.44 miles of sixth track, which with 456.05 miles of sidings makes a total length of track of 4,214.67 miles. Steel rails are laid upon 3,529.57 miles, iron rails upon 229.05 miles, and iron and steel upon 456.05 miles of track.

The company makes no report of its earnings and expenses during the year, the same being merged with those of the lessee company. The cost of additions and betterments to railway, which includes the building of the road, amounts to $29,781,386.82, and the cost of equipment to $1,342,854.95. The following statement shows the financial condition of the company on June 30, 1893:

LIABILITIES.

Funded debt	$70,310,754.54	
Accounts payable	14,557,489.83	
Pay rolls and vouchers	9,353.78	
Sinking fund, first-mortgage bonds	5,342,004.04	
Sinking fund, consolidated-mortgage bonds	19,614.62	
Total debt		$90,239,216.81
Capital stock		20,000,000.00
Total stock and debt		110,239,216.81

ASSETS.

Road and fixtures	102,063,888.49	
Equipment	9,048,181.80	
Premium on bonds redeemed	260,835.00	
Bills receivable	292,427.68	
Cash on hand	483,330.45	
Total		112,148,663.42
Surplus		1,909,446.61

SIOUX CITY AND PACIFIC RAILROAD COMPANY.

(CHICAGO AND NORTHWESTERN RAILWAY COMPANY.)

This road was included in the acts of 1862 and 1864, incorporating the Union Pacific Railroad Company, being provided for as one of the branches. In 1884 it passed under the control of the Chicago and Northwestern Railway Company by the purchase and transfer to the latter of all but a few shares of the capital stock, and is now, in connection with its former leased lines (the Fremont, Elkhorn and Missouri Valley Railroad), operated by the Chicago and Northwestern Railway Company, and forms a part of its through line from Omaha, Nebr., to St. Paul, Minn. It extends from Sioux City, Iowa, to Fremont, Nebr., a distance of 101.58 miles, with a branch line from California Junction

to Missouri Valley, Iowa, a distance of 5.84 miles, making a total of 107.42 miles. It is practically all laid with 60-pound steel rails. There are 30.47 miles of sidings and 97 miles of fencing.

The United States issued to the Sioux City and Pacific Railroad Company the sum of $1,628,320 in bonds, to aid in the construction of 101.77 miles of road, as follows: From Sioux City, Iowa, to California Junction, Iowa, a distance of 69.75 miles, and from California Junction, Iowa, to Fremont, Nebr., 32.02 miles. That portion of the line between California Junction and Missouri Valley is nonsubsidized. The interest paid on these bonds to June 30, 1893, amounted to $2,441,289.49, and there had been retained by the Treasury Department, on account of transportation services rendered the Government, the sum of $204,846.44, leaving due on that date an aggregate amount of $3,864,763.05. The excess of interest paid by the United States above all credits, amounted to $2,236,443.05.

By the Pacific Railroad acts of 1862 and 1864 this company was granted 60,000 acres of land in aid of construction. The records of the General Land Office show that to June 30, 1893, there had been patented to the company, through the State of Nebraska, 37,055.12 acres, and through the State of Iowa 4,343.11 acres. All of this land was sold to the Missouri Valley Land Company April 15, 1875, for $200,000.

Sioux City, Iowa, via California Junction and Fremont, Nebr., are the land-grant termini.

An agreement was made by the company with the American Express Company which took effect May 18, 1893, the same to remain in force until February 1, 1895, whereunder the freight of the express company is to be transported over the lines of the Sioux City and Pacific Railroad Company for an annual payment for an estimated tonnage, and an agreed schedule of rates for any excess of tonnage.

Wagner and Pullman sleeping cars are run over the company's lines, the latter paying mileage for their use. The former make all the collections and pay the cost of maintenance with sundry petty exceptions, which are paid by the railroad company.

Trackage rights are granted by agreement, and for consideration, to the Fremont, Elkhorn and Missouri Valley, the Union Pacific, the Chicago, St. Paul, Minneapolis and Omaha, and the Illinois Central Railroad Companies; and the use by the three last-named companies of the passenger depot at Sioux City.

By an agreement filed with the Commissioner of Railroads May 7, 1887, the company leased its telegraph lines to the Western Union Telegraph Company for a period of twenty-five years from April 1, 1871.

The properties of the company from Sioux City, Iowa, to Fremont, Nebr., including roadbed, track, bridges, buildings, shops, etc., were inspected by the engineer of this Bureau in May last. His report thereon is contained in Appendix A.

The equipment consists of 12 locomotives, 10 of which are equipped with Westinghouse brakes; 14 passenger cars equipped with Westinghouse brakes and Miller platforms; 290 box, 20 stock, 46 coal, and 12 caboose cars, making a total of 368 cars in the freight department, 220 of which are equipped with Westinghouse brakes, and 221 with Miller platforms.

The expenditures for new construction during the year amounted to $7,413.31, and the renewal of 12,695 cedar and oak ties to $6,117.

The following statements show the financial condition of the company on June 30, 1893.

LIABILITIES.

First mortgage bonds	$1,628,000.00	
Interest on same due and accrued	2,400.00	
Interest on same, accrued, not due	48,840.00	
United States subsidy bonds	1,628,000.00	
Interest on same paid by United States	2,441,289.49	
Interest on preferred stock, accrued, not due	2,957.51	
Pay rolls and vouchers	66,640.11	
Total debt		$5,818,447.11
Capital stock		2,068,400.00
Total stock and debt		7,886,847.11

ASSETS.

Road, fixtures, and equipment	5,748,217.56	
Fuel, material, and stores on hand	82,064.83	
Cash on hand	86,109.89	
Accounts receivable	77,195.31	
Due from other companies on account of traffic	4,593.00	
Withheld by the United States on account of transportation services	107,537.02	
Due from United States, unsettled accounts	205,321.60	
Total assets		6,311,039.21
Deficit		1,575,807.90

Statement of revenue and expenditures for the year ended June 30, 1893.

REVENUE.

Earnings	$546,791.03	
Profit and loss	6,379.04	
Total revenue		$553,170.07

EXPENDITURES.

Operating expenses	389,119.63
Taxes	18,601.11
Interest on first-mortgage bonds	97,680.00
Interest on other funded debt	97,699.20

New construction	$7,413.31	
New equipment	1,170.56	
Interest on preferred stock	11,830.00	
Total expenditures		$623,513.81
Deficit		70,343.74

Statement of amount due the United States by the Sioux City and Pacific Railroad Company, under the acts of 1862 and 1864, for the year ended December 31, 1892.

EARNINGS.

United States:		
Passenger	$2,161.27	
Extra baggage	1.04	
Freight	936.58	
Mail	25,688.16	
		$28,814.05
Commercial:		
Passenger	221,030.63	
Extra baggage	5,322.44	
Freight	207,425.57	
Express	7,187.23	
Miscellaneous	16,360.81	
		457,326.68
Total earnings		486,140.73

EXPENSES.

Maintenance of way and structures	86,906.79	
Maintenance of equipment	36,423.07	
Conducting transportation	183,463.23	
General expenses and taxes	40,382.64	
Total operating expenses	347,175.73	
New construction and equipment	112,579.68	
Total expenses		459,755.41
Net earnings		26,385.32

DUE THE UNITED STATES.

One-half Government transportation, as above	14,407.03

NOTE.—The amount of net earnings during the year not being sufficient to pay the interest on the first-mortgage bonds ($97,680), "the Government can not claim the 5 per cent which would otherwise be applicable to its subsidy." (United States *v.* Sioux City and Pacific Railroad Company, 99 U. S. Reports, pp. 491 and 492.)

Comparative statement of the earnings and expenses of the Sioux City and Pacific Railroad Company.

	Year ended—		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$244,710.21	$252,507.69	.....	$7,797.48
Freight	246,551.05	212,750.27	$33,800.78	.....
Mail	27,943.03	27,563.13	379.90	.....
Express	8,006.07	4,133.10	3,872.97	.....
Miscellaneous	19,580.67	19,486.20	94.47	.....
Total	546,791.03	516,440.39	30,350.64	.....
EXPENSES.				
Maintenance of way and structures	97,048.84	93,736.81	3,312.03	.....
Maintenance of equipment	45,526.02	43,708.66	1,817.36	.....
Conducting transportation	217,946.89	202,545.11	15,401.78	.....
General expenses and taxes	47,198.99	45,177.27	2,021.72	.....
Total	407,720.74	385,167.85	22,552.89	.....
Net earnings	139,070.29	131,272.54	7,797.75	.....
Average miles operated	107.42	107.42	.....	.....
Earnings per mile	$5,090.22	$4,807.67	$282.55	.....
Expenses per mile	3,795.57	3,585.62	209.95	.....
Net earnings per mile	1,294.65	1,222.05	72.60	.....
Percentage of expenses to earnings	74.57	74.58	.....	.01

SOUTHERN PACIFIC RAILROAD OF CALIFORNIA.

(SOUTHERN PACIFIC COMPANY.)

This company was formed in 1870 by the consolidation of the Southern Pacific, the San Francisco and San Jose, the Santa Clara and Pajaro Valley, and the California Southern railroad companies. In 1873 the Southern Pacific Branch and in 1874 the Los Angeles and San Pedro Railroad Companies were added, making a total of 1,022.20 miles operated. The main line of the road extends from San Francisco and Wilmington, Cal., to State line near Yuma, and was opened May 5, 1877. From the California boundary the road was extended eastwardly by the Southern Pacific railroad companies of Arizona and New Mexico, connecti on being made by the latter with the Atchison, Topeka and Santa Fe Railroad at Deming, N. Mex. Subsequently the line was extended to the Rio Grande River at El Paso, where connection is made with the Mexican Central to the City of Mexico, and with the Galveston, Harrisburg and San Antonio to New Orleans. The through line, including the Texas and New Orleans, the Louisiana Western, and the Morgan's, Louisiana and Texas railroads, passed under the control of the Southern Pacific Company March 1, 1885, as lessee of the Southern Pacific Railroad of California.

By the acts of Congress approved July 27, 1866, and March 3, 1871, this company received grants of 14,007,840 acres of land in aid of construction. The records of the General Land Office show that to June

30, 1893, there had been patented to the company, through the State of California, 2,211,182.90 acres. The records of the General Land Office also show that by a decision of the Commissioner, affirmed by the Secretary of the Interior, under date of November 2, 1885, 550,000 acres located in the State of California, and 3,800,000 acres of railroad indemnity lands, also located in California, have been restored to the public domain.

The company reports that, to June 30, 1893, it had received 2,219,077.285 acres and disposed of 2,997,631.175 acres; the total receipts from all sales of lands amounting to $8,540,982.25. The company also reports the sum of $2,848,428.76, principal and interest, remaining outstanding on account of time sales, and 128,493.31 acres of land undisposed of.

This road is operated in three divisions:

	Mileage.
The Coast Division	313.23
The Southern Division	1,157.22
The Stockton Division	109.30
Total	1,579.75

The company also lease 7.17 miles of branch lines. Steel rails are laid upon 1,538.06 miles of road. During the past year, 8,349 tons of steel rails were laid at a cost of $417,462.31 and 269,803 cross-ties were placed in the track at a cost of $140,297.56.

The amount expended during the year for additions and betterments to railway amounted to $3,554,291.07, of which $3,202,850 were for building 50.407 miles of road.

The equipment consists of 162 passenger locomotives, all equipped with Westinghouse brakes; 1 parlor, 2 dining, 50 first-class and 13 second-class sleepers, 158 first-class, 30 second-class, 29 baggage, mail and express, 1 mail, 24 baggage, 1 express, 11 combination passenger and baggage and 3 officers' cars—a total of 323 cars in the passenger service, all of which are equipped with Westinghouse brakes and Miller platforms.

In the freight service there are 1,940 box, 78 furniture, 135 coal, 720 flat, 514 combination, 5 refrigerator, 15 fruit, 2 oil-tank and 88 caboose cars—a total of 3,497 cars in the freight service, 3,410 of which are equipped with Westinghouse brakes.

In road and miscellaneous service, there are 3 station and 20 water cars, 1 derrick, and 1 wrecking-car tender.

The following statements show the financial condition of the company on June 30, 1893:

ASSETS.

Road, fixtures, and equipment	$123,945,055.58	
Land contracts, land cash, etc	2,541,530.39	
Company's stocks and bonds owned by company	92,000.00	
Sinking funds in hands of trustees, company	1,310,494.53	
Bills and accounts receivable	1,488,687.88	
Cash on hand	275,425.38	
Total		$129,653,193.76

LIABILITIES.

First-mortgage bonds	$47,721,500.00	
Accounts payable	52,344.26	
Trustees' land-grant mortgages	474,549.68	
Sinking funds uninvested	154,144.85	
Total		$48,402,538.79
Capital stock		66,577,000.00
Total stock and debt		114,979,538.79
Surplus		14,673,654.97
Income from land sales for redemption of bonds	10,595,580.07	
Income for sinking funds	1,332,944.85	
General income	2,745,130.05	
Total		14,673,654.97

Revenue and expenditures for the year ended June 30, 1893.

REVENUE.

Earnings on lease of road, including interest on bonds, assumed by lessees	$3,869,304.15	
Land sales for redemption of bonds	254,187.66	
Sinking funds of the company	136,720.00	
Total		4,260,211.81

EXPENDITURES.

Salaries and maintenance of organization	8,484.62	
Interest on first mortgage bonds assumed by lessees	2,694,123.50	
Sinking fund requirements, company	100,000.00	
Depreciation in rolling stock	381,113.49	
Expenses of land department	25,478.75	
Taxes on land	18,287.49	
Set over to special income account	390,907.66	
Total		3,618,395.51
Surplus		641,816.30

Comparative statement of the earnings and expenses of the Southern Pacific Railroad Company.

	Year ended—		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$3,362,682.90	$3,143,486.74	$219,196.16	.....
Freight	6,866,601.81	6,016,355.75	850,246.06	.....
Mail	150,689.94	142,114.09	8,575.85	.....
Express	133,979.04	119,804.66	14,174.38	.....
Miscellaneous	273,388.01	424,503.30	.....	$151,115.29
Total	10,787,341.70	9,846,264.54	941,077.16	.....
EXPENSES.				
Maintenance of way and structures	1,619,916.07	1,303,980.33	315,935.74	.....
Maintenance of equipment	937,137.45	905,090.95	32,046.50	.....
Conducting transportation	3,155,596.01	2,991,727.12	163,868.89	.....
General expenses and taxes	808,776.42	742,150.12	66,626.30	.....
Total	6,521,425.95	5,942,948.52	578,477.43	.....
Net earnings	4,265,915.75	3,903,316.02	362,599.73	.....
Average miles operated	1,547.72	1,464.68	83.04	.....
Earnings per mile	$6,969.82	$6,722.46	$247.36	.....
Expenses per mile	4,213.56	4,057.50	156.06	.....
Net earnings per mile	2,756.26	2,664.96	91.30	.....
Percentage of expenses to earnings	60.45	60.35	0.10	.....

TEXAS AND PACIFIC RAILWAY COMPANY.

This company was organized under the act of Congress approved March 3, 1871, and the general laws of the State of Texas. It acquired the properties of the Southern Pacific, the Southern Transcontinental, and the Memphis, El Paso and Pacific railroad companies. The Southern Pacific Railroad Company was a consolidation of the Vicksburg, Shreveport and Texas and the Southern Pacific Railroad Company, organized under the laws of Texas. Consolidation with the New Orleans Pacific Railway Company (formerly the New Orleans, Baton Rouge and Vicksburg) was effected June 21, 1881. The property was placed in the hands of receivers December 16, 1885, sold under foreclosure November 8, 1887, and reorganized without change of name.

By the acts of Congress approved June 3, 1856, and March 3, 1871, grants of land, as follows, were made to roads forming the present sytem:

	Acres.
Texas and Pacific	18,000,000
New Orleans, Baton Rouge and Vicksburg	3,800,000
Vicksburg, Shreveport and Pacific (chartered as Vicksburg, Shreveport and Texas)	610,880
Total	22,410,880

Of the above grants, the records of the General Land Office show that, to June 30, 1893, there had been patented 912,865.93 acres. The records of the General Land Office also show that by the act of Feb-

ruary 20, 1885, there had been forfeited 15,692,800 acres of the grant to the Texas and Pacific, and 352,587 acres of the grant to the New Orleans, Baton Rouge and Vicksburg and by the act of February 28, 1887, 19,000 acres of railroad indemnity lands granted to the Vicksburg Shreveport and Pacific had been restored to the public domain.

In the report of the company to the stockholders for the calendar year 1892 the assets of the land department are given as 94,250 acres, valued at $500,000; also bills receivable (land notes) amounting to $117,281.31.

A report for the year ended June 30, 1893, has been submitted to this office by the president of the company, as required by section 13 of the act approved March 3, 1871 (16 Stat., 573).

The main line of the road extends from the State line to Sierra Blanca, Tex., and via Texarkana and Sherman to Fort Worth, Tex., 1,039 miles, and from New Orleans to Shreveport, La., 324 miles. There are 22 miles of branches and 21 miles of leased lines. That portion of the line between Sierra Blanca and El Paso, 93 miles in length, is used jointly with the Galveston, Harrisburg and San Antonio Railway Company, making a total of 1,499 miles, over which the trains of the Texas and Pacific are operated. Of this mileage 1,275 miles are laid with steel rails of from 56 to 63 pounds, and 224 miles with iron rails. The iron rails, with the exception of 17 miles on branches in Louisiana, are located on the extreme western end of the line, and are being replaced by steel, with an appropriation of about 3,000 tons annually. The entire line will thus eventually be laid in steel.

The equipment consists of 191 locomotives, 49 first-class, 13 second-class, 10 combination, 13 excursion, 33 baggage, express, and postal, 2 postal, and 1 pay cars—a total of 121 cars in the passenger service. In the freight service there are 2,194 box, 772 flat, 343 stock, 601 coal, 37 tank, and 38 fruit cars—a total of 3,985 cars. There are also 6 derricks, 97 caboose, and 54 road cars, the aggregate number of cars owned being 4,263.

The Kansas City, El Paso and Mexican Railway, better known as the "White Oaks" road, was acquired during the year on very advantageous terms, and is considered a valuable acquisition to the property of the company. It is projected from El Paso to White Oaks, N. Mex., a country rich in coal and other minerals.

The following statements show the financial condition of the company on June 30, 1893:

LIABILITIES.

First-mortgage bonds, February 1, 1888	$24,987,975.75
Second-mortgage income bonds	24,920,953.68
First-mortgage bonds, eastern division	3,784,000.00
Old bonds unredeemed	89,000.00
Texas school-fund loan	139,899.66
Interest scrip, income and land-grant bonds	305,492.00
Other scrip	15,912.30

Pay rolls and vouchers	$674,330.07	
Due other companies	59,560.31	
Bills payable, car trusts and notes	590,272.67	
Interest due and accrued	221,014.17	
Estimated taxes	74,731.68	
Unadjusted account, Gould-Huntington contract	179,651.55	
Other unadjusted accounts	38,450.40	
Total debt		$56,131,244.24
Capital stock		38,710,900.00
Total stock and debt		94,842,144.24

ASSETS.

Road, fixtures and equipment	80,535,298.80	
New second-mortgage bonds in treasury	1,763,000.00	
Other bonds and scrip	40,494.00	
Gordon coal mines	136,868.62	
Grain elevator, Westwego, La	95,159.07	
In hands of trustees to retire first-mortgage bonds of eastern division and Texas school fund loan	3,951,000.00	
Capital stock New Orleans Pacific Railway Company	6,712,500.00	
Other stocks	73,779.41	
St. Charles Car Company trust	78,928.50	
Missouri Car and Foundry Company Car trust	194,700.15	
Cash on hand	168,316.91	
Red River Line (H. P. Rwy. Co., proportion of working capital)	4,500.00	
Due from agents and foreign roads	612,282.62	
Advances to agents	10,585.33	
Unclaimed wages	11,391.32	
Bills receivable—land notes	101,483.18	
Fuel, stores, and material on hand	225,041.59	
Unadjusted accounts	59,936.50	
Total		94,775,266.00
Deficit		66,878.24

Revenue and expenditures for the year ended June 30, 1893.

REVENUE.

Earnings	$7,329,072.13	
Coupons, interest, equipment, etc	72,137.91	
Rentals	53,001.60	
Sundry amounts	99,833.78	
Receiver's certificate, St. Louis, Alton and Springfield Rwy	36.05	
Total		$7,554,081.47

EXPENDITURES.

Operating expenses	$5,302,210.05
Taxes	192,803.95
Interest on funded debt	1,279,490.00
Interest and discount	17,361.23
Rentals	68,904.00
Sundry amounts	236,346.82
Sundry investments	150,300.08
Litchfield Railway Equipment Company car trust	33,452.76
Total	$7,280,868.89
Surplus	273,212.58

Comparative statement of the earnings and expenses of the Texas and Pacific Railway Company.

	Year ended—		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$1,858,942.96	$1,876,334.67	.....	$17,391.71
Freight	4,999,120.60	4,748,076.83	$251,043.77	.....
Mail	210,917.12	210,567.17	349.95	.....
Express	164,526.26	164,410.75	115.51	.....
Miscellaneous	95,565.19	58,608.89	36,956.30	.....
Total	7,329,072.13	7,057,998.31	271,073.82	.....
EXPENSES.				
Conducting transportation	1,940,241.75	2,058,341.78	.....	118,100.03
Maintenance of way	1,078,329.06	1,313,600.49	.....	238,271.43
Motive power	1,656,867.66	1,709,560.86	.....	52,693.20
Maintenance of cars	413,408.80	408,236.16	5,172.64	.....
General expenses and taxes	406,171.58	413,948.76	.....	6,782.03
Total	5,495,014.00	5,905,688.05	.....	410,674.05
Net earnings	1,834,058.13	1,152,310.26	681,747.87	.....
Average miles operated	1,499.00	1,499.00	.....	.....
Earnings per mile	$4,889.31	$4,708.47	$180.84	.....
Expenses per mile	3,665.79	3,939.75	.....	273.96
Net earnings per mile	1,223.52	768.72	454.80	.....
Percentage of expenses to earnings	74.97	83.67	.....	8.70

UNION PACIFIC RAILWAY COMPANY.

This company was formed January 24, 1880, by the consolidation of the Union Pacific, the Kansas Pacific, and the Denver Pacific Railroad Companies.

The Union Pacific Railroad Company was chartered by Congress July 1, 1862. The subsidy in Government bonds was at the rate of $16,000, $32,000, and $48,000 per mile, according to difficulty in the work of construction. By the act of incorporation the subsidy bonds were to be a first mortgage on the road. Under a subsequent act of July 2, 1864, the company was allowed to issue an equal amount of its own bonds, which were to be a first lien on the road, the subsidy bonds being thereafter a second mortgage. For the repayment of the subsidy

bonds the company was required to pay annually to the Government 5 per cent of its net earnings and one-half of the charges for transportation on its account. The amount realized therefrom being insufficient to defray the annual interest charge on the subsidy bonds, the act of May 7, 1878, otherwise known as the "Thurman act," was passed. At this date the excess of interest paid by the United States over and above all reimbursements had amounted to $11,771,728.83 for the Union Pacific and $2,930,963.60 for the Kansas Pacific. The Thurman act provided that the whole amount of compensation for services rendered the Government by the company should be retained by the United States, one-half to be applied to the liquidation of the interest paid and to be paid by the United States on account of the subsidy bonds, and the other half to be carried to the credit of a sinking fund. Under the provisions of the same act the 5 per cent of net earnings directed to be withheld by the acts of 1862 and 1864 were increased to 25. The road was opened May 10, 1869, seven years and twenty days in advance of the time fixed.

The Kansas Pacific Railway Company was first chartered by the legislature of Kansas as the Leavenworth, Pawnee and Western. It was included in the Pacific Railroad acts of 1862 and 1864, and granted a subsidy in Government bonds of $16,000 per mile, the condition of the subsidy being the same as the grant to the Union Pacific. On June 6, 1863, the name of the company was changed to the Union Pacific Eastern Division, and by an act of Congress, approved May 31, 1868, to the Kansas Pacific. The road was completed from Kansas City to Denver (638 miles) September 1, 1870. In 1873 default was made in the payment of interest on the company's bonds and the road placed in the hands of a receiver, who was discharged in 1879 and the affairs of the company reorganized.

The Denver Pacific, connecting the Kansas Pacific with the Union Pacific, was built by the Kansas Pacific and opened January 1, 1871.

The mileage of the system on June 30, 1893, was as follows:

	Miles.	
Main line:		
Council Bluffs, Iowa, to Ogden, Utah	1,033.46	
Kansas City, Mo., to Denver, Colo	639.52	
Denver, Colo., to Cheyenne, Wyo	104.10	
Branch lines:		
Leavenworth to Lawrence, Kans	31.93	
Council Bluffs, Iowa (Broadway), to junction with main line	1.72	
Omaha, Nebr. (bridge junction), to old initial point	3.95	
Almy Junction, Wyo., to Mine No. 7	3.88	
Armstrong to Wyandotte, Kans	2.08	
Detroit to Enterprise, Kans	1.95	
		45.51
Total owned		1,822.59

The company also controls 5,859.86 miles of auxiliary lines, making a total of 7,682.45 miles of owned and operated roads which report to the organization located at Omaha.

Those portions of the road which were constructed by the aid of a subsidy in bonds, and are therefore subject to the requirements of law with respect to the annual payment to the United States of a percentage of net earnings, are as follows:

Union Pacific—Bridge Junction, Omaha, Nebr., to Ogden, Utah, 1,029.4840 miles; Ogden Station, Utah, to junction with the Central Pacific Railroad (leased and operated by the Central Pacific Railroad Company), 5 miles; total, 1,034.4840 miles. The aided portion of the Kansas Pacific begins at Kansas City, Mo., and ends at a point near Boaz, Kans., a distance of 393.9425 miles.

The subsidy bonds issued by the United States in aid of construction amount to $33,539,512; the Union Pacific having received $27,236,512 and the Kansas Pacific $6,303,000. The interest paid thereon by the United States to June 30, 1893, amounted to $51,210,890.70, and the repayments by the company in transportation services, cash, and interest on the sinking-fund investments to $32,834,323.72, as shown by the books of the Treasury Department; making the company's liability to the United States on that date $51,916,078.98. The excess of interest paid by the United States over all credits amounted to $18,376,566.98, a reduction in the amount of liability of $97,183.85, as compared with the previous year.

The amount found due the United States under the acts of 1862, 1864, and 1878, for the year ended December 31, 1892, was $1,384,659.40; an increase of $42,081.27 over the amount found due for the previous year.

The interest payable by the United States on the bonds issued to this company amounts to $2,012,370.72 annually.

By the Pacific Railroad acts of 1862 and 1864 the following grants of land were made by Congress to aid in construction:

	Acres.
Union Pacific	12,000,000
Kansas Pacific	6,000,000
Denver Pacific Railway and Telegraph	1,000,400
Total	19,000,400

The following points are the land-grant termini:

Union Pacific—Bridge Junction, Omaha, Nebr., and Union Depot, Ogden, Utah. Kansas Pacific, Kansas City, Mo., and a point on the railroad between Monument and Gopher stations and 18th street, Denver, Colo. Denver Pacific, Denver, Colo., and Cheyenne. Wyo.

The records of the General Land Office show that to June 30, 1893, there had been patented to the—

	Acres.
Union Pacific, direct	3,906,533.90
Through the State of Kansas	2,743,097.13
Through the State of Nebraska	3,783,641.97
Through the State of Colorado	289,682.03
Through the State of Wyoming	79,682.03
Through the Territory of Utah	40,196.49
Total	10,842,833.55
To the Kansas Pacific, direct	2,476,052.18
To the Denver Pacific, direct	209,232.52
Aggregate	13,528,118.25

The company reports the number of acres of land acquired as follows:

By United States patents		7,207,346.98
By cancellation of contracts		2,128,603.13
Total		9.335,950.11
Total number of acres sold for cash and on time contracts	13,929,695.75	
Reclaimed by United States	480.00	
		13,390,175.75

The company also reports that the total cash receipts from all sales to date amount to $38,778,924.24, and $7,066,120.17 outstanding on account of time sales.

The express business on the company's line of road is transacted by the Pacific Express Company, under contract dated May 1, 1886, the railroad company receiving a percentage of the gross earnings.

Pullman parlor, sleeping, and dining cars are run under contract dated February and August, 1889.

The telegraph business is transacted by the Western Union Company, under contract dated July 1, 1881.

Sundry contracts and agreements, relating to transportation and leases, have been entered into with other companies at various times.

The properties of the company, from Omaha, Nebr., to Ogden, Utah, and from Kansas City to a point 394 miles west, including roadbed, track, bridges, buildings, shops, etc., were inspected by the engineer of this Bureau in May last. His report thereon is contained in Appendix A.

The equipment consists of 96 passenger, 349 freight, and 89 switching locomotives, 518 of which are equipped with Westinghouse brakes. In the passenger service there are 13 dining, 60 sleeping, 25 chair, 132 first-class, 30 second-class, 46 emigrant, 40 mail, 49 baggage, 12 express, 3 combination, and 11 officers' cars; a total of 424, all of which are equipped with Westinghouse brakes and Miller platforms. In the freight service there are 6,107 box, 1,081 stock, 1,806 coal, 471 flat, 117 combination, 427 refrigerator, 796 fruit, and 230 caboose cars; a total of 11,035 cars, 8,679 of which are equipped with Westinghouse brakes and 175 with Miller platforms. In the road and miscellaneous service

there are 12 derricks, 22 snow plows, 31 boarding, 346 dump, gravel, construction, etc., 3 wrecking, 1 hand, and 7 push cars; 6 derricks, 119 dump, etc., and 1 boarding car are equipped with Westinghouse brakes. One hundred and fifty-eight locomotives, 88 passenger, 3,504 freight, and 100 road-repair cars (included in the foregoing) are held in trust by the American Loan and Trust Company, trustee, of Boston.

There were 15,376 tons of steel rails laid during the year, at a cost of $506,837.40, and 1,338 tons of iron rails, at a cost of $29,296.77. During the same period there were placed in the track 630,080 oak, cedar, pine, and fir cross-ties ,at a cost of $290,383.09.

The amount expended for additions and betterments to railway was $182,361.68, and to rolling stock, $122,294.51, all of which was charged to construction account.

The following statements show the financial condition of the company on June 30, 1893, together with the amounts found due the United States under the acts of 1862, 1864, and 1878. Other financial and statistical information relating to the sinking fund, bonds issued, and lands granted to this company will be found in the appendixes.

Comparative statement of the funded debt of the Union Pacific Railway Company, June 30, 1893 and 1892.

Class of bonds.	Term of bond.		Rate of interest.	Amount of bonds outstanding—		Difference.		Lien on—
	Years.	Date of maturity.		June 30, 1893.	June 30, 1892.	Increase.	Decrease.	
Union Pacific Railroad Company.			*Per cent.*					
Union Pacific, first mortgage	30	1896-1899	6	$27,229,000	$27,229,000	.....	.....	Road and franchise, Omaha to Ogden.
United States subsidy, second mortgage	30	1896-1899	6	27,236,512	27,236,512	.....	.....	Do.
Sinking-fund mortgage, coupon	20	1893	8	4,712,000	4,965,000	.....	$253,000	Road and franchise, Omaha to Ogden, third mortgage; granted lands, second mortgage.
Sinking-fund mortgage, registered	20	1893	8	450,000	454,000	.....	4,000	
Collateral trust, 6 per cent	29	1908	6	3,724,000	3,827,000	.....	103,000	Bonds of branch lines held by trustees.
Omaha bridge	25	1896	8	565,000	732,000	.....	167,000	Omaha bridge, first mortgage.
Land-grant mortgage	20	1887-1889	7	8,000	8,000	.....	.....	Granted lands.
Kansas Pacific Railway Company.								
Eastern division, first mortgage	30	1895	6	2,240,000	2,240,000	.....	.....	Road and income, Kansas City to a point 140 miles west.
Middle division, first mortgage	30	1896	6	4,063,000	4,063,000	.....	.....	Road and income, one hundred and fortieth mile post to three hundred and ninety-fourth mile post.
United States subsidy, second mortgage	30	1895-1898	6	6,303,000	6,303,000	.....	.....	Road and franchise, Kansas City to three hundred and ninety-fourth mile post.
Denver extension, first mortgage	30	1899	6	5,887,000	5,887,000	.....	.....	Road and lands, three hundred and ninety-fourth mile post to Denver.
Leavenworth branch, first mortgage	30	1896	7	15,000	18,000	.....	3,000	Leavenworth branch.
Income	50	1916	7	11,400	22,500	.....	11,100	Income.
Income, subordinated	50	1916	7	23,100	19,000	$4,100	.....	Do.
Consolidated mortgage	40	1919	6	11,724,000	12,470,000	.....	746,000	Blanket mortgage, 779 miles of road and 294 miles of land grant.
Denver extension, coupon certificates	12	1886	6	385	385	.....	.....	Income.
Denver Pacific Railway and Telegraph Company.								
Cheyenne branch, first mortgage	30	1899	7	4,000	4,000	.....	.....	Cheyenne branch, road and lands.
Union Pacific Railway Company.								
Trust, 5 per cent coupon	24	1907	5	4,724,000	4,857,000	.....	133,000	Bonds of branch lines held by trustees.
Trust, 5 per cent registered	24	1907	5	18,000	18,000	.....	.....	Do.
Omaha bridge renewal, second mortgage	21	1906	5	1,056,000	889,000	167,000	.....	Omaha bridge

Comparative statement of the funded debt of the Union Pacific Railway Company, June 30, 1893 and 1892—Continued.

Class of bonds.	Term of bond.		Rate of interest.	Amount of bonds outstanding—		Difference.		Lien on—
	Years.	Date of maturity.		June 30, 1893.	June 30, 1892.	Increase.	Decrease.	
Union Pacific Railway Company—Cont'd.			*Per cent.*					
Equipment trust, series A	1 to 10	1888–1897	5	$358,000	$430,000	.....	$72,000	Equipment held by the American Loan and Trust Company of Boston, as trustee.
Equipment trust, series B	1 to 10	1889–1899	5	1,052,000	1,263,000	.....	211,000	
Equipment trust, series C	1 to 10	1891–1900	5	671,000	671,000	.....	.....	
Collateral trust, 4½ per cent	29	1918	4½	2,030,000	2,044,000	.....	14,000	Bonds of branch lines held by trustees.
Kansas division and collateral mortgage, coupon.	30	1921	5	5,000,000	5,000,000	.....	.....	Road and lands and bonds and stocks held by trustees.
Collateral trust, 6 per cent notes	3	1894	6	11,433,000	18,084,000	.....	6,651,000	Bonds and stocks held by trustees.
Total funded debt	.....	.....	.....	120,537,397	128,734,397	$171,100	8,368,100	

Revenue and expenditures for the year ended June 30, 1893.

REVENUE.

Earnings		$19,743,747.41
Dividends on stocks of other companies		290,015.00
Interest on bonds of this and other companies		1,278,065.49
Interest on and income from miscellaneous investments		206,533.59
Receipts of the land department and trust income		125,433.82
Interest on U. S. sinking fund of company		689,880.00
Discount on collateral trust notes redeemed		176,255.87
Miscellaneous land receipts		9,327.83
Interest on Kansas Pacific consoldated bonds repaid by trustees		486,230.44
Total		$23,005,489.45

EXPENDITURES.

Operating expenses		11,872,003.19
Interest on funded debt	$5,146,837.84	
Credit by interest on other debt	85,353.18	
		5,061,484.66
Losses on stocks of other companies		7,391.40
Losses on bonds of other companies		912,184.33
Sinking fund requirement companies		715,267.50
New construction	$182,361.68	
New equipment	122,294.81	
		304,656.49
Expenses of land department, taxes, etc		332,098.49
Interest paid by trustees on Kansas Pacific consolidated bonds		486,230.44
United States requirement		*1,323,044.37
Premium on purchase of 8 per cent sinking-fund bonds		15,574.67
Coal department, damage claims, etc		10,915.47
Premium on bonds redeemed		116,436.84
Profit and loss		646,369.78
Total		21,803,657.63
Surplus		1,201,831,82

*$1,384.659.40 found due the United States by this office for the year 1892.

Comparative statement of the financial condition of the Union Pacific Railway Company, June 30, 1893.

	Year ended—		Difference.	
	June 30. 1893.	June 30, 1892.	Increase.	Decrease.
LIABILITIES.				
First-mortgage bonds	$42,545,000.00	$43,434,000.00		$889,000.00
Interest on same, due and accrued	186,063.25	180,246.06	$5,817.19	
Interest on same, accrued, not due	637,805.78	1,034,492.50		396,686.72
United States subsidy bonds	33,539,512.00	33,539,512.00		
Interest on same, paid by United States	51,210,890.70	49,198,519.98	2,012,370.72	
Other funded debt	44,269,885.00	51,760,885 00		7,491,000.00
Interest on same, due and unpaid	70,795.68	74,640.65		3,844.97
Interest on same accrued, not due	679,054.31	858,900.32		179,846,01
Dividends unpaid	18,709.27	18,709.27		
Accounts payable	2,199,720.61	2,214,511.74		14,791.13
Pay-rolls and vouchers	2,964,691.73	3,305,559.38		340,867.65
Called bonds	167,000.00	155,000.00	12,000.00	
Total debt	178.489,128.33	185,774,976.90		7.285,848.57
Capital stock	60,868,500.00	60,868,500.00		
Total stock and debt	239,357,628.33	246,643,476.90		7,285,848.57
ASSETS.				
Road fixtures and equipment	155,662,567.45	155,348,481.36	314,086.09	
Land contracts, land cash, etc	8,548,439.40	9,580,850.76		1,032,411.36
Fuel, material, and stores on hand	1,973,948.66	2,029,282.84		55,334.18
Company's stocks and bonds owned by company	509,630.25	157,620.00	352,010.25	
Company's stocks and bonds owned by company in trust	6,338,382.92	6,155,382.92	183,000.00	
Other stocks and bonds owned by company	1,142,000.71	715,841.82	426,158.89	
Other stocks and bonds owned by company, in trust	48,107,502.64	53,515,580.09		5,408,077.45
Miscellaneous investments	1,168,713.45	1,202,268.74		33,555.29
Advances payable in stocks and bonds	2,302,468.18	2,403,084.28		100,616.10
Sinking funds in hands of trustees, company	3,984,922.20	3,514,479.39	470,442.81	
Bills receivable	1,630,637.23	1,364,400.47	266,236.76	
Accounts receivable	11,779,377.33	13,389,260.63		1,609,883.30
Due from other companies on account of traffic	223,972.57	477,259.76		253,287.19
Repaid the United States in transportation services and cash	33,228,292,52	31,487,749.02	1,740,543.50	
Cash on hand	1,771,857.91	2,225,108.97		453,251.06
Total assets	278,372,713.42	283,566,651.05		5,193,937.63
Surplus	39,015,085.09	36,923,174.15	2,091,910.94	

The company claims a credit in its general balance sheet of $33,228,292.52 for transportation services rendered and cash payments to the United States, but the following statement, compiled from reports furnished this office by the Treasury Department of settled accounts, cash payments, and interest on sinking-fund investments to June 30, 1893, shows a difference on that date of $393,959.80, thus:

Amount of credits claimed by the company			$33,228,292.52
Applied to the credit of bond and interest account:			
Transportation	$17,971,165.85		
Cash	438,409.58		
		$18,409,575.43	
Applied to sinking-fund account:			
Transportation	$9,505,183,71		
Interest	3,497,859.12		
Cash	1,421,714.46		
		14,424,757.29	
			32,834,332.72
Difference			393,959.80

The following statements show the amounts found due the United States by the Union division under the "Thurman act," and by the Kansas division under the acts of 1862 and 1864 for the year ended December 31, 1892:

Statement of amounts due the United States by the Union Pacific Railway Company under the act of May 7, 1878, for the year ended December 31, 1892.

UNION DIVISION.

EARNINGS.

United States:		
Passenger	$50,139.59	
Freight	100,473.71	
Mail	849,955.16	
Telegraph	57.59	
		1,000,626.05
Commercial:		
Passenger	2,335,542.98	
Sleeping cars*	84,928.80	
Freight	10,371,257.90	
Company freight	473,280.28	
Express	207,246.27	
Telegraph	39,727.51	
Miscellaneous	319,145.43	
		13,831,129.17
Total earnings		14,831,755.22

EXPENSES.

Maintenance of way and structures	1,227,250.59	
Maintenance of equipment	1,820,606.31	
Conducting transportation	3,866,759.28	
General expenses	963,572.13	
Taxes	374,201.63	
Total operating expenses	8,252,389.94	
Interest on first mortgage bonds	1,633,740.00	
Total expenses under act of May 7, 1878		9,886,129.94
Net earnings		4,945,625.28

(Twenty-five per cent of net earnings = $1,236,406.32.)

DUE THE UNITED STATES.

One-half Government transportation, as above	$500,313.02	
Five per cent of net of earnings, under act of 1862	247,281.26	
Credit of bond and interest account		747,594.28
One-half Government transportation, as above	500,313.03	
Credit of sinking-fund account		500,313.03
Total for the year		1,247,907.31

*Apportioned on the basis of sleeping-car mileage, being 43.7947 per cent of $193,924.85, income from sleeping cars.

KANSAS DIVISION—AIDED LINE.

EARNINGS.

United States:		
Passenger	$7,076.53	
Freight	9,832.46	
Mail	106,448.99	
Telegraph	20.17	
		$123,378.15
Commercial:		
Passenger	793,797.77	
Sleeping cars*	22,815.26	
Freight	2,289,065.90	
Company freight	37,217.57	
Express	52,542.71	
Telegraph	7,292.98	
Miscellaneous	92,349.45	
		3,295,081.64
Total earnings		3,418,459.79

EXPENSES.

Maintenance of way and structures	329,077.47	
Maintenance of equipment	350,833.37	
Conducting transportation	872,098.41	
General expenses	228,562.85	
Taxes	103,469.55	
Total operating expenses	1,884,041.65	
New construction and equipment†	33,157.81	
Total expenses under act of 1864		1,917,199.46
Net earnings		1,501,260.33
Five per cent of net earnings		75,063.02

DUE THE UNITED STATES.

One-half Government transportation, as above	$61,689.07	
Five per cent of net earnings under act of 1864	75,063.02	
Total for the year		136,752.09

DUE BY THE UNION PACIFIC RAILWAY COMPANY.

Union division	1,247,907.31	
Kansas division	136,752.09	
Total		1,384,659.40

*Apportioned on the basis of sleeping-car mileage, being 11.7650 per cent of $193,924.85 income from sleeping cars.

†Distributed on the basis of revenue-train mileage, being 17.11507 per cent of $57,165.88, the amount expended for new equipment.

Comparative statement of the earnings and expenses of the Union Pacific Railway Company.

	Year ended—		Difference.	
	June 30, 1893.	June 30, 1892.	Increase.	Decrease.
EARNINGS.				
Passenger	$3,733,706.00	$3,598,018.71	$135,687.29	.....
Freight	14,032,257.93	14,251,969.09	.....	$219,711.16
Mail	1,054,395.39	1,034,415.89	19,979.50	.....
Express	330,309.17	321,010.37	9,298.80	.....
Miscellaneous	593,078.92	532,164.37	60,914.55	.....
Total	19,743,747.41	19,737,578.43	6,168.98	.....
EXPENSES.				
Maintenance of way and structures	1,871,974.78	1,828,137.90	43,836.88	.....
Maintenance of equipment	2,411,006.19	2,571,413.64	.....	160,407.45
Conducting transportation	5,575,286.31	5,269,483.13	305,803.18	.....
General expenses and taxes	2,013,735.91	1,766,745.02	246,990.89	.....
Total	11,872,003.19	11,435,779.69	436,223.50	.....
Net earnings	7,871,744.22	8,301,798.74	.....	430,054 52
Average miles operated	1,822.59	1,821.86	.73	.....
Earnings per mile	10,832.79	10,833.75	.....	.96
Expenses per mile	6,513.81	6,271.98	236.83	.....
Net earnings per mile	4,318.98	4,556.77	.....	237.79
Percentage of expenses to earnings	60.13	57.94	2.19	.....

IN THE CIRCUIT COURT OF THE UNITED STATES.

For the eighth judicial circuit and district of Nebraska.

Order appointing receivers.

OLIVER AMES, SECOND, AND SAMUEL CARR, EXECUTORS OF THE last will and testament of Frederick L. Ames, deceased, and Peter B. Wyckoff, and Edwin F. Atkins, complainants,
against
THE UNION PACIFIC RAILWAY COMPANY; THE ATCHISON, COLorado and Pacific Railway Company; The Atchison, Jewell County and Western Railroad Company; The Boulder Valley and Central City Wagon Road Company; The Bozeman Coal Company; The Calloway Improvement Company; The Carbon-Cut-Off Railway Company; The Central Branch Union Pacific Railroad Company; The Denver, Leadville and Gunnison Railroad Company; The Green River Water Works Company; The Junction City and Fort Kearney Railway Company; The Kansas Central Railroad Company; The Kansas City and Omaha Railroad Company; The Kearney and Black Hills Railway Company; The Laramie, North Park and Pacific Railroad and Telegraph Company; The Lawrence and Emporia Railway Company; The Loveland Pass Mining and Railroad Tunnel Company; The Montana Railway Company; The Morrison Stone, Lime, and Town Company; The Omaha and Republican Valley Railway Company; The Oregon Railway and Navigation Company; The Oregon Short Line and Utah Northern Railway Company; The St. Joseph and Grand Island Railroad Company; The Salina and Southwestern Railway Company; The Solomon Railroad Company; The Union Land Company; The Union Pacific, Denver and Gulf Railway Company; The Union Pacific, Lincoln and Colorado Railway Company, and the Union Pacific Coal Company, defendants. } In equity.

Upon reading and considering the verified bill of complaint in this cause and the answer of the defendant The Union Pacific Railway Company this day filed, and on motion of counsel for the complainants, the defendant, The Union Pacific Railway Company, appearing by counsel and assenting hereto, and each of the other defendants appearing by counsel and assenting hereto.

And due deliberations being therein had, it is adjudged, ordered, and decreed by the court that S. H. H. Clark, of St. Louis, and Oliver W. Mink, of Boston, and E. Ellery Anderson, of New York, be, and they are hereby, appointed receivers of this court of all and singular the said defendant, The Union Pacific Railway Company, and of all the railroads and assets described in the bill of complaint herein, the same being the system of railways now in possession of and owned, operated, leased, or controlled by, for, or in the interest of the said corporation, The Union Pacific Railway Company, situated in the States of Nebraska, Iowa, Kansas, Colorado, Missouri, Wyoming, Montana, Idaho, Washington, Nevada, Oregon, New York, Massachusetts, and the Territories of Utah and New Mexico, and all the property of said Union Pacific Railway Company, and of each of said companies, real, personal, and mixed, of whatever kind and description, and wherever situated, whether described in the bill of complaint or not, including all equipments, locomotives, cars, and other rolling stock, boats, steamships, ships, docks, piers, floats, machinery, tools, material, shops, coal yards and fixtures, coal on hand and supplies now owned, held.

or in possession and use for such corporations, and wherever situated, and including all track, terminal facilities, real estate, warehouses, offices, stations, and all other buildings of every kind owned, held, or possessed by said companies, together with all telegraph lines and the appurtenances thereto; and also all moneys, books of account, contracts of every kind, debts, things in action, bonds, stocks, securities, deeds, leases, leasehold interests, beneficial muniments of title, bills receivable, rents, profits, and income of the premises accruing and to accrue, as well as all franchises, rights, easements, and privileges of said Union Pacific Railway Company and of each of said companies.

That the said receivers be, and they are hereby, fully authorized and directed to take immediate possession of all and singular the railroads and property above described or referred to, wherever situated or found, and continue the operation of the said railroad and water system and every part thereof, and to run, manage, and operate the said railroads, and such other railroads as said Union Pacific Railway Company holds, controls, or operates under lease, contract, or otherwise, and has heretofore run and operated, or which have been or are being operated by, for, or in the interest of The Union Pacific Railway Company as part of its system, and to exercise the authority and franchises of the said company, and conduct systematically the business and occupation of a common carrier of passengers and freight, and discharge all of the public and governmental duties obligatory upon said railway corporation or upon any of the other corporations whose lines of road are now in the possession of and operated by or for or in the interest of the said Union Pacific Railway Company; and to preserve the said property in proper condition and repair, so that it may with safety and most advantageously be used, and to protect the title and possession of the same, and to employ such persons and make such payments and disbursements as may be needful or proper in so doing.

Each and every of the officers, directors, agents, or employés of the said Union Pacific Railway Company, and of each of the defendants, and all other persons and corporations soever, as well as each of the defendants, are hereby required and commanded forthwith to turn over and deliver to such receivers or their duly constituted representative any and all railroads, property, books of account, vouchers, papers, deeds, leases, contracts, bills, notes, accounts, moneys, or other property in his or their hands, or under his or their control; and each and every of such directors, officers, agents, employés, persons, or corporations are hereby commanded and required to obey and conform to such orders as may be given them, from time to time, by the said receivers or their duly constituted representatives in conducting the operations of said property and in discharging their duties as such receivers; and each and every of such officers, directors, and employés of the said Union Pacific Railway Company, and of each of the defendants, and all other persons and corporations soever are hereby enjoined from interfering in any way whatever with the possession or management of any part of the property over which the receivers are hereby appointed, or interfering in any way to prevent the discharge of their duties or operating the same under the court's order.

Said receivers are hereby fully authorized to operate the said system of railroads so owned, leased, operated, or controlled by or for or in the interest of the said Union Pacific Railway Company, and manage all other property of such corporation at their discretion and in such manner as will in their judgment produce the most satisfactory results consistent with the discharge of the public duties imposed thereon, and to collect and receive all the income therefrom and all the debts due said companies of all kinds; and for such purpose are hereby vested with full power at their discretion to employ and discharge and fix the compensation of all such officers, attorneys, managers, superintendents, agents, and employés, to aid in the proper discharge of their duties; and they and each of them shall have power, with the sanction of the court, to redeem any and all of the securities of the company now pledged as security on loans of money, and they shall have power, with the sanction of the

court first had, to borrow money if needful in their judgment in order to comply with this direction, and also so far as may be needful to pay all operating expenses and for current necessities for labor and supplies, but for no other purpose without the further order of this court.

Said receivers are fully authorized and empowered to institute and prosecute all such suits as may be necessary in their judgment for the proper protection of the property and trusts hereby vested in them; and to likewise defend such actions instituted against them as such receivers, and also to appear in and conduct the prosecution or defense of any suit now pending in any court against The Union Pacific Railway Company, the defendants, or any of them, or any of the companies embraced in The Union Pacific system or operated by, for, or in the interest of said system, the prosecution or defense of which will, in the judgment of said receivers, be necessary for the proper protection of the property placed in their charge for the interest and rights of creditors connected therewith.

Said receivers are hereby directed to deposit the moneys coming into their hands in some banks in New York City, Boston, and Omaha, and such other cities or places as may be necessary or convenient, and report to the court what banks they have so selected.

It is hereby further ordered, adjudged, and decreed that out of the moneys that shall come into the hands of said receivers from the operation of said railway properties or otherwise they shall—

First. Pay all current expenses incident to the creation or administration of this trust, and to the operation of said railway or railroads and properties.

Second. Pay all sums due or to become due connecting or intersecting lines of railroads arising from the interchange of business, and for track service of other railroads used by said Union Pacific Railway Company or system in the operation of its lines, traffic, and car mileage, balances, and all amounts now due from said Union Pacific Railway Company or roads or properties constituting part of its system for taxes and assessments upon the property, or any part thereof.

Third. Pay the amounts due to all operatives, employés, attorneys, and agents of said company for any services rendered said company or companies within six months prior to the allowance of this order.

Fourth. Pay all amounts due for supplies and material contracted for or purchased or delivered or used in operating said railway or railroads, or by said company or companies for supplies furnished to laborers and credited against their labor within six months prior to the allowance of this order.

Fifth. And all amounts due from said railway company or companies for or on account of the rental or compensation for railway lines, property, or rolling stock.

Sixth. The money belonging to the defendants, and each company constituting part of the said system, except as heretofore directed, shall be held by said receivers until they are authorized to dispose of the same under the order or decree of this court.

Seventh. And said receivers are further authorized in case it is proper in their judgment, with the sanction of the court, to use any balance of funds arising from the operating of said railroads for the purpose of protecting such of the real and personal property, as aforesaid, under lease, sale, pledge, mortgage, or contract.

It is further ordered that the said receivers shall retain possession and continue to discharge the duties and trusts aforesaid until the further order of this court in the premises, and that they shall from time to time make report to this court of their doings in the premises, and may from time to time apply to this court for such other and further order and direction as they may deem necessary and requisite to the due administration of said trust; and said receivers are vested, in addition to the powers aforesaid, with all the general powers of receivers in cases of this kind, subject to the supervision of this court.

It is further ordered that an injunction be issued against the defendants and all other persons claiming to act by, through, or under them, and all other persons, to

restrain them from interfering with the receivers further taking possession of and managing said property.

Said receivers are hereby further required, within twenty days from this date, to file with the clerk of this court a proper bond, with sureties to be approved by the clerk of this court or a judge thereof, each in the penal sum of $50,000, conditioned for the faithful discharge of their duties, and to account for all funds coming into their hands, according to the order of this court.

October 13, 1893.

ELMER S. DUNDY, *Judge.*

A true copy.

[SEAL.]

ELMER D. FRANK, *Clerk.*
By E. S. DUNDY, JR., *Deputy.*

[House Ex. Doc., No. 21, Fifty-third Congress, first session.]

Letter from the Attorney-General, transmitting, pursuant to House resolution, information relating to the Union Pacific Railroad.

DEPARTMENT OF JUSTICE,
Washington, D. C., October 20, 1893.

SIR: I have the honor to acknowledge the receipt of the resolution of the House of Representatives, by which, referring to recent legal proceedings whereby the Union Pacific Railway Company has passed into the hands of receivers appointed by a court of the United States, the Attorney-General is requested to inform the House whether the Government of the United States had any notice of or was made a party to any such proceedings; whether such proceedings are valid in law as against the United States in its relations to said company and in any way affect the interests of the United States in said company as protected and secured by existing laws; what action, if any, the Attorney-General has taken or proposes to take in the matter, and whether any further legislation is necessary to empower him to take such action in the premises as may be deemed necessary to protect and secure the indebtedness of said company to the United States.

In compliance with such request I have the honor to say that the United States was not a party to the proceedings referred to and was without notice of them until after they had been taken; that there is grave doubt as to the validity of such proceedings so far as the United States is concerned, and that in their practical, if not their technical, operation and effect such proceedings must be regarded as tending to seriously prejudice the interests of the United States as protected and secured by existing laws.

The only action yet taken by me in the premises has been the employment of the Hon. George Hoadley, of New York, as special counsel for the United States—an employment rendered necessary by the fact that the entire force of the Department of Justice is no more than adequate to the current demands upon it, and that the complexity of the affairs of the Union Pacific Railway Company, the important questions raised by the receivership, and the enormous indebtedness of the company to the United States require that its interests should receive the continuous and almost exclusive attention of competent counsel.

It is more than probable that the proper protection of the interests of the United States will be found to call for special legislation by Congress. But, until further investigation and knowledge both of the facts and the law involved, it would be unwise to attempt to indicate the precise legislation needed. Upon that particular subject, therefore, I shall, with the leave of the House, make an additional report to it at as early a day as practicable.

Very respectfully,

RICHARD OLNEY,
Attorney-General.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

WISCONSIN CENTRAL RAILROAD COMPANY.

(NORTHERN PACIFIC RAILROAD COMPANY.)

This company has failed to submit, on the form prescribed by the Bureau, a report of its operations during the past year.

The company was chartered in 1853 to construct a road from Menasha, Wis., to Ashland and Superior City, Wis., a distance of 330 miles. The road is operated by the Northern Pacific Railroad Company under lease. Portage City, Wis., via Stevens Point and Ashland, Wis., are the land-grant termini.

By an act of Congress approved May 5, 1864, there were granted to the company 1,800,000 acres of land in aid of construction.

The records of the General Land Office show that to June 30, 1893, there had been patented to the company 770,727.08 acres of land, and that 200,000 acres of railroad-indemnity lands, located in Wisconsin, had been restored to the public domain.

CONCLUSION.

The jurisdiction of this Bureau extends over forty-nine original companies which, by consolidation and lease, are now included in and operated by fifteen companies or "systems," with an aggregate of upward of 67,000 miles of railway.

The duties devolving upon the Bureau are technical in character, and require practical experience in the intricate methods of railway accounting. They include a supervision, by personal inspection and examination, of the valuable properties of the railway companies, and a settlement of accounts involving millions of dollars annually. They require a familiarity with what are known as the Pacific Railway acts and the decisions of the courts interpreting them. The duties to be performed, therefore, are in the highest degree important, and the services rendered are of corresponding value to the Government.

It affords me great pleasure to commend the general efficiency of the employés of the Bureau.

I have the honor to be, sir, very respectfully,

Your obedient servant,

WADE HAMPTON,
Commissioner.

Hon. HOKE SMITH,
Secretary of the Interior.

APPENDIXES AND TABLES.

Appendix A.—Railroad Engineer's Report.
Appendix B.—Laws of Congress relating to Pacific railroads.
Appendix C.—Syllabi of Supreme Court decisions in cases affecting the bond-aided Pacific railroads.
Appendix D.—Government directors of the Union Pacific Railway.
Table No. 1.—Amount of bonds issued in aid of Pacific railroads. the interest paid thereon by the United States, and the amounts repaid by the several companies to June 30, 1893.
Table No. 2.—Condition of sinking funds on June 30, 1893.
Table No. 3.—Amounts found due the United States by the Union Pacific Railway Company, under the provisions of the "Thurman Act," from July 1, 1878, to December 31, 1892.
Table No. 4.—Amounts found due the United States by the Central Pacific Railroad Company, under the provisions of the "Thurman Act," from July 1, 1878, to December 31, 1892.
Table No. 5.—Grants of land by Congress to railroad companies coming under the provisions of the Act of June 19, 1878; the number of acres patented to and forfeited by the companies, and the number of acres restored to the public domain.
Table No. 6.—Amount of bonds issued to the several Pacific railroad companies and to whom delivered, with the dates of issue, maturity, beginning of interest, and the number of miles aided.

APPENDIX A.

REPORT OF RAILROAD ENGINEER.

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE COMMISSIONER OF RAILROADS,
Washington, June 30, 1893.

SIR: In accordance with instruction from this office I made a careful daylight inspection of the bonded roads during the months of May and June, including the Union Pacific from Omaha to Ogden, the Central Pacific from Ogden to San Jose, the Kansas Pacific from Kansas City to a point 394 miles west near Winona, Kans., the Central Branch of the Union Pacific from Atchison to Waterville, and the Sioux Cty and Pacific from Sioux City to Fremont.

iIn view of some probable early action by Congress for the settlement of the indebtedness of these roads to the Government, on account of the early maturity of the bonds issued in aid of their construction, I have thought that as concise a statement of the actual physical characteristics of the roads at the end of the present fiscal year as it is possible to make in an ordinary report would be deemed of more value by your office at this time than the reports heretofore made of the yearly construction and betterments only. I have, therefore, endeavored to enumerate about everything of any importance on the roads lying within the right of way upon which the Government is supposed to have a lien. No attempt at an estimate of values has been made, deeming that beyond the province of this report.

This information has been supplemented by such a description of the towns along the line of the roads, and where possible of the adjacent country, as would give to the ordinary layman seeking information a fair idea of the business and worth of the roads, and the capacity of such towns and adjacent country to furnish adequate support to the roads, independent of the lateral feeders not bonded to the Government.

UNION PACIFIC RAILROAD.

Inspection was made early in May from Omaha to a point 5 miles west of Ogden. As a whole the track was found generally in very good condition considering the time of year, having come out of a long and wet winter remarkably well, showing considerable care in maintenance for so early in the season. In some places on the mountain grades the high banks have been weather-worn rather narrow, but these are being widened with cinders and slack and are being put in more permanent shape.

The greatest elevation on the road—8,247 feet at Sherman—is overcome from the east by a maximum grade of 80 feet per mile—not compensated for curvature. The west grade is 90 feet per mile—not compensated. No very great amount of work was involved in the construction of the road on either side of this summit. The west side has two snow sheds of a total length of 1,684 feet and one wooden trestle 127 feet high over Dale Creek, while on the east side nothing of the kind is required.

The track was found in very good shape from Laramie to Green River, the banks having been widened with cinders and slack. From Green River to Ogden the country is very much broken, and the line follows about every point of the compass. The approach to Green River, down Muddy Creek, and from there to Ogden, shows decided features of mountain work, and though hard to maintain, was found in very fair condition. One quite extensive snow-slide occurred at the head of Devil's Gate during the past winter. It is through this mountain section that the best roadbed material is found, and where most of the ballasting with gravel has been done—20.5 miles between Laramie and Rawlins, and 5 miles between Evanston and Ogden. A large percentage of the rails through this section are rather light and splices short, though extending to three ties. This is fast being done away with by new rails and longer splices.

Along the flat grade of the Platte Valley the natural soil makes a fair roadbed, and, owing to the long haul for gravel, except in the mountains, and the expense attending the experiments with burnt clay so far, very little attempt has been made to ballast with any other material on the plains. On the mountains a large portion of the roadbed material is coarse sand and gravel. This condition of the material and the extreme dryness of the climate of the western two-thirds of the line will, in a measure, account for the roadbed making no better showing than is given in the following detailed statement of the ballast:

Station.		Kind.			Total.
From—	To—	Natural soil.	Gravel.	Burnt clay.	
		Miles.	*Miles.*	*Miles.*	*Miles.*
Omaha	Grand Island	149.84	1.30	4.86	156.00
Grand Island	North Platte	137.20	.....	.....	137.20
North Platte	Sidney	123.30	.....	.....	123.30
Sidney	Cheyenne	102.10	.....	.....	102.10
Cheyenne	Laramie	56.60	.....	.....	56.60
Laramie	Rawlins	115.89	20.51	.....	136.40
Rawlins	Green River	135.60	.....	.....	135.60
Green River	Evanston	110.30	.....	.....	110.30
Evanston	Central Pacific Junction terminal.	75.93	5.00	.....	80.93
Total		1,006.76	26.81	4.86	1,038.43

The cross-ties are principally oak, cedar and pine, numerically in the order named, and have been upon an average about four years in the track, or about one-half the ordinary life of ties under similar circumstances.

The age of the steel varies from a few months to fifteen years. The heavy steel has been put in during the past four years. The detailed statement of the location and length of the different weights of steel rails is as follows:

Station.		Steel, weight per yard.						
From—	To—	50 pounds.	56 pounds.	60 pounds.	67 pounds.	70 pounds.	75 pounds.	Total.
		Miles.	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*
Omaha	Grand Island	.....	.20	121.60	9.10	11.50	13.60	156.00
Grand Island	North Platte	.....	.40	116.10	4.00	3.30	13.40	137.20
North Platte	Sidney	.....	39.60	81.20	.....	2.50	.....	123.30
Sidney	Cheyenne	.....	.....	7.20	1.40	10.40	83.10	102.10
Cheyenne	Laramie	.....	1.00	19.90	7.90	2.80	25.00	56.60
Laramie	Rawlins	.....	7.30	33.20	1.50	43.30	51.10	136.40
Rawlins	Green River	.....	41.20	67.00	.....	9.00	18.40	135.60
Green River	Evanston	.....	60.00	8.70	.....	12.00	29.60	110.30
Evanston	Central Pacific Junction terminal.	2.80	50,10	9.33	.....	.....	18.70	80.93
Total		2.80	199.80	464.23	23.90	94,80	252.90	1,038.43

No attempt has been made to give the age and condition of individual structures. The freight depot and boiler house at Omaha, the depots at Valley, Columbus, Grand Island, Kearney, Cheyenne, and Ogden, the brick shop buildings and roundhouse at Cheyenne, and the brick roundhouse, coal chutes, and ice house at Ogden are new and were built during the past few years. The balance of the principal structures are from three to fifteen years old; but as repairs have been kept up and renewals made from time to time, all may be said to be in very fair condition and to show a general appearance of neatness.

The character of the principal bridges and the years of their erection are as follows: Iron trusses over Missouri River at Omaha in 1887; Elkhorn River in 1881; Loup River in 1878; Laramie River in 1886; North Platte in 1879; Bitter Creek in 1886; Green River in 1886; Black's Fork, one in 1882 and one in 1884; Ham's Fork in 1882, and one over Weber River in 1880; also a plate girder over Dale Creek in 1885, and an iron deck over Devil's Gate in 1882.

The total length of all snow sheds is 5,172 linear feet. The first is located 1 mile west of Sherman, and is 430 feet long; the next is 3 miles west of Sherman, and is 1,254 feet. Four miles west of Allen is another, 1,152 feet, and the last and longest is 2 miles east of Aspen, and is 2,236 feet.

The improvements under way are: Burning clay for ballast from Council Bluffs to Valley; laying 16 miles of new 70-pound steel between Columbus and Grand Island; new spur track to brickyard at Grand Island, and laying 25 miles of new 70-pound steel between North Platte and Julesburg.

The improvements contemplated are: Sewerage system for lower yard at Omaha; interlocking system covering tracks and switches used by Union Pacific Railway Company, Missouri Pacific Railway, Union Stock Yards Company, Burlington and Missouri River Railroad, Chicago, Rock Island and Pacific Railway, and Chicago, Milwaukee and St. Paul Railway, at South Omaha; at Columbus a new freight depot and 8,000 feet of additional side track; two new spans in Loup River bridge to replace those washed out, and side tracks for loading sugar beets at Ames; at Schuyler, connecting tracks with Burlington and Missouri River Railroad, and track to new mill at Silver Creek; at Kearney, freight depot to be moved and rebuilt, and new tracks to same; new passing-track at Julesburg, and new passenger depot at Sidney.

The detailed characteristics of the stations along the line are as follows:

Omaha, 3 miles west of Council Bluffs, is a city of about 140,000 inhabitants. There are 34 newspapers, 19 banks and 118 churches. The chief industries are manufacturing, smelting and refining, and jobbing. The Union Pacific yards, which are in excellent condition, contain about 72 miles of side and spur tracks. The following are the principal buildings: Freight house, brick, 1 story, 128 by 341, with front 33 by 128, containing offices, 2 stories high; car shop, frame, 1 story 90 by 390; car shop, frame, 2 stories, 40 by 390; car machine shop, frame, 2 stories, 40 by 390; boiler house, brick, 1 story, 40 by 50; dry house, 1 story, brick, 20 by 110; repair shop, 42 by 60; iron house, 1 story, frame, 42 by 140; polishing house, 14 by 127; fire engine house, 30 by 103; boiler shop, 1 story, brick, 80 by 150; boiler shop, 1 story, brick, 50 by 176; office building, 2 stories, brick, 76 by 84; blacksmith shop, 1 story, brick, 76 by 200; sheet-iron shop, 1 story, brick, 50 by 76; brass foundry, 1 story, brick, 40 by 50; engine machine shop, 1 story, brick, 26 by 90 and 16 by 70; machine shop, 1 story, brick, 60 by 120; machine shop, 1 story, brick, 140 by 150; foundry, 1 story, frame, 76 by 200; locomotive repair shop, 1 story, frame, 38 by 125; round house, brick, 24 stalls; store house, 1 story, frame, 30 by 90; store house, 1 story, frame, 45 by 223; store house, 1½ stories, frame, 30 by 105; ice house, frame, 30 by 100; office, 1 story, frame, 20 by 52; store house, 1 story, frame, 44 by 244; paint shop, 1 story, frame, 32 by 160; ice house, frame, 30 by 100; general office building, 5 stories, and basement, brick, 100 by 132. There is, in addition to the above, a large number of smaller buildings used for paint, oil, sand houses, repair shops, etc. The erection of a passenger station was begun some years ago by the Omaha Union Depot Company, but stopped by injunction of the city, and the temporary frame depot now used is owned by the Depot Company. The water supply is taken from the city mains which are supplied from the Missouri River. In the machine and car shops are employed about 1,500 men on general repairs of cars and locomotives. These shops are very complete and first-class in every respect, and are kept in the best of order. Between Omaha and South Omaha the double track is laid with 67 and 75-pound steel rail, about three years old, on oak ties from 1 to 5 years old, the roadbed being well ballasted with gravel.

South Omaha, 4.3 miles from Omaha, contains about 15,000 inhabitants, 3 daily papers, 6 banks, and 13 churches. The chief industries are packing-houses and stock-yards. The Union Pacific yard contains about 5.8 miles of siding and a frame 1-story depot, 24 by 184. The water is supplied to locomotives by means of stand-pipes connected with city mains and is taken from Missouri River.

Averys, 7.8 miles from Omaha, has 125 inhabitants, 1 church. The only industry is pressed brick manufacturing. The yard consists of 0.67 mile siding and a 1-story brick depot, 20 by 24.

At Gilmore Junction, 9 miles from Omaha, there is an interlocking plant, protecting junctions with the Missouri Pacific Railway and Burlington and Missouri River Railroad.

Gilmore, 9.8 miles from Omaha, contains 70 inhabitants. Its industries are agriculture and stock-raising. The yard consists of 0.97 mile of siding, frame 1-story depot, 24 by 70, stock-yard, and section house. The double track ends at Gilmore, the rails between South Omaha and Gilmore being mostly 75 pounds and are about four years old; the ties are all oak and from one to five years old, and the road bed is well ballasted with gravel.

Papillon, 14.7 miles from Omaha, has 800 inhabitants, one bank, 6 churches, and 1 newspaper. The industries are 1 flour mill and agriculture and stock-raising. The yard consists of 1.82 miles siding, frame depot, one store, 24 by 44, section house, and stock yards.

Portal, 17.1 miles from Omaha, has 150 inhabitants and 1 church. Agriculture and stock-raising are the industries. The yard consists of 0.03 mile of siding and a grade crossing with the Missouri Pacific Railway.

Millard, 20.3 miles frem Omaha, has 400 inhabitants, 1 bank, 1 church, and 1 newspaper. The industries are 2 brickyards, 1 flour mill, 1 cigar factory, and agriculture and stock-raising. The yard consists of 0.94 mile siding, frame depot, 1 story, 25 by 90, section houses, stock yards, pump house, water tank, and windmill. Water is supplied from well; quantity is ample and quality is good.

Elkhorn, 28.6 miles from Omaha, has 530 inhabitants, 1 bank, 2 churches, and 1 newspaper. Industries are agriculture and stock raising, mostly. The yard consists of 1.28 miles siding, frame, 1-story depot, 24 by 72, section house, and stock yards.

Waterloo, 31.3 miles from Omaha, has 450 inhabitants and 2 churches. The industries are agriculture and stock-raising, principally. The yard consists of 0.98 miles siding, frame, 1-story depot, 24 by 50, section house, and stock yards.

Valley, 34.8 miles from Omaha, is junction of branch line to Lincoln and Manhattan, has 500 inhabitants, 1 bank, 2 churches, and 1 newspaper. Agriculture and stock-raising are the only industries. The yard consists of 4.11 miles siding, stone and brick depot, 29 by 125, 1 story; tenement house, frame, 1 story, 24 by 45; boiler house, brick, 1 story, 20 by 50; master mechanic's office, 1-story frame, 14 by 16; coal chute, pump house, 1-story frame, 12 by 16; track scales, water tank and windmill. The water is supplied by a well; quantity is ample and quality is good.

Mercer, 41.0 miles from Omaha, 20 inhabitants. Agriculture and stock-raising the main industries. The yard consists of 0.63 mile siding, frame, 1-story depot, 22 by 45, and stock yards.

Fremont, 46.2 miles from Omaha, has 10,000 inhabitants, 5 banks, 12 churches, and 6 newspapers. The industries are 12 factories manufacturing harness, binder twine, butter tubs, egg cases, carriages, furniture, woolens, etc., also agriculture and stock-raising. The yard consists of 2.87 miles sidings; frame passenger depot, 1 story, 30 by 90; frame freight house, 1 story, 30 by 94; section house, stock yards, water tank, and windmill. Water is supplied by well; quantity is ample and quality good.

Ames, 53.1 miles from Omaha, has 350 inhabitants. Agriculture and stock-raising are the industries. The yard consists of 1.02 miles siding; frame, 1-story depot, 24 by 60, and section house.

North Bend, 61.1 miles from Omaha, has 1,200 inhabitants, 2 banks, 5 churches, and 2 newspapers. The industries are brick yard, tow factory, flour mill, creamery, and agriculture and stock-raising. The yard consists of 1.29 miles sidings, frame, 1-story depot, 30 by 50, section house, stock yards, water tank, and windmill. The water is supplied from well; quantity is ample and quality good.

Rogers, 68.2 miles from Omaha, has 200 inhabitants, 1 bank, and 1 church. Agriculture and stock-raising are the only industries. The yard consists of 1.03 miles siding; frame, 1-story depot, 24 by 60, section house, and stock yards.

Schuyler, 75.5 miles from Omaha, has 2,800 inhabitants, 4 banks, 6 churches, and 4 newspapers The industries are agriculture and stock-raising. The yard contains 2.81 miles siding; frame, 1-story depot, 24 by 100; section house, coal chute (4 pockets) stock yards, pump house, water tank, and windmill. Water is supplied by well; the quantity is ample and quality good.

Benton, 83.6 miles from Omaha, has 75 inhabitants and 1 church. Agriculture and stock-raising are the only industries. The yard consists of 0.55 mile siding; frame, 1-story depot, 20 by 40, section house, and stock yards.

Columbus, 91.3 miles from Omaha, is the junction of branch lines to Norfolk, Albion, and Cedar Rapids, Nebr.; has 4,000 inhabitants, 3 banks, 8 churches, and 4 newspapers. The industries are: creamery, wagon, broom, and shoe factories, agriculture, and stock-raising. The yard consists of 3.59 miles siding; stone, 1-story passenger depot, 34 by 95; frame freight house, 1-story, 30 by 97; brick roundhouse, 4 stalls, 66½ by 66, slate roof; frame car repairer's house, 1-story 12 by 24; iron turntable 54 feet; stock yards, coal chute (30 pockets), frame car repairer's house, 1 story, 16 by 30; frame ice house, 24 by 50. The water is supplied by city from standpipes.

Duncan, 99 miles from Omaha, has 65 inhabitants and 2 churches. Agriculture and stock-raising are the main industries. The yard consists of 0.87 mile siding; frame, 1 story depot, 25 by 90; section house, and stock yards.

Gardner, 103 miles from Omaha, 15 inhabitants. Agriculture and stock-raising are the only industries. The yard consists of 0.53 mile siding and section house.

Silver Creek, 109.1 miles from Omaha, has 537 inhabitants, 1 bank, 3 churches, and 1 newspaper. The industries are 1 flour mill, and agriculture and stock-raising. The yard consists of 0.99 mile siding; frame, 1-story depot, 24 by 40; section house, stock yards, water tank, and windmill. The water is supplied from a well; the quantity is ample and quality good.

Havens, 114.9 miles from Omaha. Agriculture is the only industry. The yard consists of 0.85 mile siding and stock yards.

Clarks, 120.4 miles from Omaha, has 750 inhabitants, 1 bank, 4 churches, and 1 newspaper. The industries are agriculture and stock-raising only. The yard consists of 1.37 miles sidings; frame, 1-story depot, 25 by 80; section house, stock yards,

frame pump house, water tank, and windmill. The water is supplied by a well; the quantity is ample and quality good.

Central City, 131.7 miles from Omaha, has 1,600 inhabitants, 3 banks, 5 churches, and 4 newspapers. Industries, agriculture and stock-raising. The yard consists of 1.24 miles siding; frame, 1-story depot, 24 by 90; section house, stock yards, stock scales, water tank, and windmill. Water is supplied from a well; the quantity is ample and quality good.

Chapmans, 141.8 miles from Omaha, has 300 inhabitants, 1 bank, and 2 churches. The industries are oatmeal mill, and agriculture and stock-raising. The yard consists of 0.63 mile siding; frame, 1-story depot, 25 by 90; section house, and stock yards.

Lockwood, 147.6 miles from Omaha, 24 inhabitants. Agriculture and stock-raising are the only industries. The yard consists of 0.46 mile siding, section house and stock yards.

Grand Island, 153.4 miles from Omaha, is the junction of branch lines to Ord, Loup City, and Pleasanton; also terminal of the St. Joseph and Grand Island Railroad; has 10,000 inhabitants, 5 banks, 12 churches, and 6 newspapers. The industries are 1 sugar, 1 canning, 2 broom, and 1 soap factory, 2 foundries, 1 planing mill, 1 creamery, 1 brewery, 1 brickworks, etc., and agriculture and stock raising. The yard consists of 16.09 miles sidings; brick, 1-story passenger depot, 30 by 116; frame freight house, 30 by 100; ice house, 31 by 128; frame hotel, 2 stories, 35 by 100, with two additions, 35 by 51 and 32 by 45; stock yards, track scales, section house, stone and brick roundhouse, 25 stalls; 60-foot iron turntable; coal schute, 40 pockets; stone machine shop, slate roof, 100 by 150, addition 50 by 50; stone car shop, slate roof, 165 by 250, brick addition, tin roof, 14 by 14; stone blacksmith shop, 75 by 150; frame paint shop, 1 story, 16 by 52; frame car-repairers' shop, 1 story, 22 by 76; sand house, 20 by 40; brick oil house, 20 by 40. In addition to the above there are a number of small buildings used as paint, oil, sand, and repair shops, etc. In the machine and car shops are employed about 166 men on general repairs of cars and locomotives. This station is a freight-train district terminal. The water is supplied from city mains by standpipes; the quantity is ample and quality is good.

Alda, 161.3 miles from Omaha, has 80 inhabitants, 1 church. The only industries are agriculture and stock-raising. The yard consists of 0.85 mile siding; frame, 1-story depot, 20 by 40; section house, and stock yards.

Wood River, 169.1 miles from Omaha, has 600 inhabitants, 2 banks, 3 churches, and 1 newspaper. Agriculture and stock-raising are the only industries. The yard consists of 0.96 mile siding; frame, 1-story depot, 24 by 70; stock yards, water tank, and windmill. Water is supplied by well; quantity is ample and quality good.

Shelton, 176.6 miles from Omaha, has 1,000 inhabitants, 2 banks, 2 churches, and 2 newspapers. The industries are agriculture and stock-raising alone. The yard consists of 1.0 mile siding; frame, 1-story depot, 24 by 60; section house, and stock yards.

Gibbon, 182.7 miles from Omaha, 800 inhabitants, 2 banks, 2 churches, and 2 newspapers. Agriculture and stock-raising are the only industries. The yards consists of 1.28 miles siding; frame, 1-story depot, 25 by 80; section house, stock yards, scales, water tank, and windmill. The water is supplied by well; the quality is good and quantity is ample.

Buda, 191.1 miles from Omaha, has 25 inhabitants and 1 newspaper. Agriculture and stock-raising are the only industries. The yards consists of 0.58 mile siding; frame, 1-story depot, 30 by 70; section house, and stock yards.

Kearney, 195.7 miles from Omaha, is the junction of branch line to Calloway, Nebr.; has 10,000 inhabitants, 6 banks, 12 churches and 8 newspapers. The industries are cotton mills, paper mills, oatmeal mill, plow factory, foundries, flour mill, broom factory, and agriculture and stock-raising. The yard consists of 3.15 miles sidings; stone, 1-story passenger depot, 28 by 116; frame freight depot, 1 story, 30 by 100; frame car repairer's house, 14 by 16; section house, stock yards, track scales, frame pump house, 12 by 16; water tank and windmill. The water is supplied by well; the quantity is ample and quality is good.

West Kearney, 198.5 miles from Omaha; population included with Kearney. The yard consists of 0.74 mile siding and brick 1-story depot, 22 by 50.

Stevenson, 201 miles from Omaha, 20 inhabitants; 0.57 mile siding and section-house. Agriculture and stock raising are the only industries.

Odessa, 205 miles from Omaha, has 50 inhabitants and 1 church. Agriculture and stock raising are the only industries. The yard consists of 0.51 miles siding, and frame 1-story depot, 12 by 28.

Elm Creek, 211.3 miles from Omaha, has 350 inhabitants, 2 banks, 3 churches and 1 newspaper. The industries are 1 gristmill and agriculture and stock raising. The yards consists of 0.79 mile siding, frame 1-story depot, 24 by 64, section house, stock yards, water tank and windmill. The water supply is from a well; the quantity is ample and quality good.

Overton, 220 miles from Omaha, has 325 inhabitants, 1 bank, and 2 churches.

Industries agriculture and stock-raising. The yard consists of 0.67 mile siding, frame 1-story depot, 20 by 52, 2 section houses and stock yards.

Lexington, 231 miles from Omaha, has 2,000 inhabitants, 3 banks, 5 churches, and 4 newspapers. Industries, 1 cigar factory, 2 carriage factories, 2 flour mills, and agriculture and stock raising. The yard consists of 1.92 mile siding, frame 1-story depot, 24 by 90, stock yards, stock scales, coal chute—30 by 67 (20 pockets)—pump house 13 by 20, water tank and windmill. The water is supplied from well; the quantity is ample and quality good.

Coyote, 239.1 miles from Omaha; 0.64 mile siding and section house.

Cozad, 245 miles from Omaha, has 1,000 inhabitants, 3 banks, 4 churches, and 2 newspapers. The industries are flour mill, machine shop, agriculture, and stock raising. The yard consists of 1.05 miles siding and frame 1-story depot 24 by 60.

Willow Island, 249.9 miles from Omaha, has 55 inhabitants and 1 church. Agriculture and stock raising are the only industries. The yard consists of 0.63 mile siding, frame 1-story depot 24 by 40, section house, stock yards, water tank, and windmill. Water supply is from a well; the quantity is ample and quality good.

Gothenburg, 255.3 miles from Omaha, has 1,250 inhabitants, 3 banks, 3 churches, and 2 newspapers. The industries are 2 brickyards, 1 brass and 1 copper factory, 1 overall and shirt factory, 2 roller mills, 1 broom factory, 1 barb-wire factory, and agriculture and stock raising. The yard consists of 1.66 miles sidings and frame 1-story depot 20 by 40.

Vroman, 260.4 miles from Omaha, has, a .48 mile siding and section house. The industries consist of agriculture and stock raising.

Brady Island, 268.2 miles from Omaha, has 175 inhabitants, 1 bank, and 1 church. Agriculture and stock raising are the only industries. The yard consists of a .91 mile sidings, frame 1-story depot 24 by 40, section house, stock yards, water tank and windmill. Water is supplied by well; the quantity is ample and quality good.

Maxwell, 277.4 miles from Omaha, has 70 inhabitants. Industries are agriculture and stock raising mostly. The yard consists of 0.71 mile siding, frame 1-story depot, 24 by 50, section house, stock yards, water tank, and windmill. Water is supplied from a well; quantity is ample and quality is good.

North Platte, 290.9 miles from Omaha, is freight and passenger train district terminal; has 4,000 inhabitants, 3 banks, 7 churches, and 3 newspapers. The industries are agriculture and stock raising principally. The yard consists of 10.13 miles sidings; frame, 2-stories, depot and hotel, 35 by 135, with 2-story addition, 35 by 75; frame laundry for hotel, 1½ stories, 20 by 48; 2 section houses, coal chute (32 pockets), track scale, 2 ice houses, 1 31 by 128 and 1 24 by 100; assistant superintendent's office, 32 by 40; brick machine shop, tin roof, 1 story, 100 by 152; brick boiler shop, tin roof, 1 story, 50 by 125; brick engine and boiler house, 1 story, 34 by 44; frame bath and hose house, 1 story, 14 by 32; brick oil house, 1 story, 19 by 29; frame oil house, 1 story, 24 by 46; frame iron supply house, 1 story, 24 by 30; brick store house, 1 story, 37 by 57; frame store house, 1 story, 24 by 30, with addition, frame, 10 by 18; brick blacksmith shop, 1 story, 75 by 101, with addition, brick, 22 by 30; frame office building, 1 story, 20 by 40; frame carpenter shop, 1 story, 19 by 41; brick roundhouse, slate roof, 25 stalls, iron turn-table; 60-foot, frame office and carpenter shop, 1 story, 18 by 32; frame car repair and coal storage house, 1 story, 16 by 62, and water tank. The water is supplied by a well; the quantity is ample and quality is good. In addition to the above there are a number of small buildings used for paint, oil, sand, and repair shops, etc. In the shops are employed about 240 men on general repairs of cars and locomotives, and everything is kept in good shape.

Nichols, 300.6 miles from Omaha, has 0.57 mile siding and section house. Agriculture and stock raising being the only industries.

Hershey, 303.9 miles from Omaha, has 25 inhabitants. Agriculture and stock raising are the only industries. The yard consists of 0.79 mile siding, frame 1-story depot 22 by 48, section-house, water tank, and windmill. Water is supplied by a well; the quantity is ample and quality good.

Sutherland, 310 miles from Omaha, has 100 inhabitants and 1 bank. The industries are agriculture and stock raising. The yard consists of 0.78 mile siding, frame 1-story depot 16 by 24, and stock yards.

Paxton, 314.9 miles from Omaha, has 125 inhabitants, 1 bank and 2 churches. Agriculture and stock raising are the only industries. The yard consists of 0.93 mile siding, frame 1-story depot 24 by 48, section-house, hand-car house, stock yards, water tank and wind-mill. The water is supplied from a well; the quantity is ample and quality good.

Roscoe, 334.5 miles from Omaha, 0.55 mile siding, and section house. Agriculture and stock raising are the principal industries.

Ogallala, 341.5 miles from Omaha, has 600 inhabitants, 2 banks, 3 churches and 3 newspapers. The industries are flourmills, brickyards, and agriculture and stock raising. The yard consists of 1.39 miles siding, frame 1-story depot 24 by 70, section-

house, bunk-house, engine and pump house, water tank and windmill. Water is supplied by a well; the quantity is ample and quality good.

Brule, 350.6 miles from Omaha, has 0.58 mile siding and section-house only.

Big Springs, 360.6 miles from Omaha, has 100 inhabitants, 1 bank and 1 church. Agriculture and stock raising are the only industries. The yard consists of 0.82 mile siding, frame 1-story depot 24 by 48, section house, 2 bunk houses, stock yards and water tank. The water supply is from a spring; the quantity is ample and the quality is good.

Julesburg, 371.9 miles from Omaha, is the junction of cut-off line to Denver, Colo., via La Salle; has 800 inhabitants, 2 banks, 2 churches and 2 newspapers. Agriculture and stock raising are the only industries. The yard consists of 0.61 mile sidings, frame 1 story depot 24 by 90, coal chute (28 pockets), frame pump house, water tank, and windmill. Water supply is from a well; the quantity is ample and quality good.

Weir, 377.3 miles from Omaha, has 0.66 mile of siding and section house only.

Chappell, 386.9 miles from Omaha, has 200 inhabitants, 1 bank, 1 church and 1 newspaper. Stock raising and agriculture are only industries. Yard consists of 0.60 mile sidings, frame 1-story depot 24 by 60, section house, water tank, and windmill. The water supply is from a well; the quantity is ample and the quality is good.

Lodge Pole, 396.4 miles from Omaha, has 200 inhabitants, 1 bank, 1 church and 1 newspaper. Industries are agriculture and stock raising. The yard consists of 0.81 mile siding, frame 1-story depot 24 by 48, with an addition of 24 by 27; section house, bunk house, stock yards, water tank, and windmill. The water supply is from a well; the quantity is ample and the quality is good.

Colton, 407.7 miles from Omaha, has 0.54 miles siding and section house only.

Sidney, 414.1 miles from Omaha, is a freight train district terminal and has 1,250 inhabitants, 2 banks, 5 churches and two newspapers. The industries are a flour mill, United States Army post, and agriculture and stock raising. The yard consists of 3.49 miles siding, frame 1-story depot 24 by 48; frame hotel, 2 stories, 28 by 75, with 2 additions, 1 28 by 44 and 1 28 by 20; frame hotel laundry, 1½ stories, 25 by 50; brick roundhouse, 10 stalls, iron turn-table 54 feet; frame master mechanic's office, 1 story, 14 by 20; pump house 19 by 29, 2 section houses, stock yards, frame car repairers' house, 2 stories, 18 by 30, with addition, 2 stories, 14 by 24; frame car repairers' house 14 by 26; frame freight house, 1 story, 36 by 83; coal chute (24 pockets); frame ice house 31 by 108, and water tank. In addition to above there are a number of small buildings used for paint, oil, sand, and repair shops, etc. In the shops are employed about 25 men on general repairs of cars and locomotives. The water supply is from a well; the quantity is ample and the quality good.

Brownson, 422 miles from Omaha, has 0.50 mile siding, section house, and stock yards.

Potter, 433 miles from Omaha, has 75 inhabitants, 2 churches and 1 newspaper. Stock raising is the chief industry. The yard consists of 0.77 mile siding, frame 1-story depot, 20 by 44; section house, stock yards, water tank and wind mill. The water supply is from a well; the quantity is ample and the quality is good.

Dix, 442.1 miles from Omaha. The yard consists of 0.62 mile siding, frame 1-story depot 12 by 30, and section house.

Kimball, 451.2 miles from Omaha, has 200 inhabitants, 1 bank, 3 churches, and 1 newspaper. The industries are a cheese factory and stock raising. The yard consists of 0.63 mile siding, frame 1-story depot 24 by 70, section house, stock yards, pump-house 12 by 26, and water tank. The water supply is taken from Lodge Pole Creek, about 3,150 feet from tank; the quantity is good (scarce in summer) and quality is good.

Bushnell, 463.2 miles from Omaha; 0.54 mile siding, section house, water tank, and windmill. The water supply is from a well; the quantity is ample and the quality is good.

Pine Bluffs, 473.1 miles from Omaha, has 40 inhabitants. Stock raising is the principal industry. The yard consists of 0.61 mile siding, frame 1-story depot 24 by 48, section house, stock yards, water tank and windmill. The water supply is from a well; the quantity is ample and the quality is good.

Egbert, 484.1 miles from Omaha, has 25 inhabitants. Stock raising is the chief industry. Yard consists of 0.59 mile siding, frame 1-story depot 12 by 36, with additions 4 by 20 and 8 by 11; section house, water tank, and wind mill. The water is supplied from a well; the quantity is ample and quality is good.

Hillsdale, 496.3 miles from Omaha, has 28 inhabitants. Stock raising is the only industry. The yard consists of 1.00 mile siding, frame 1-story depot 24 by 48, section house, pump house, water tank, and stock yards. The water supply is from a well; the quantity is ample and the quality is good.

Atkins, 502.9 miles from Omaha, has 0.43 mile siding, section house, pump house

and water tank. The water supply is from a well; the quantity is ample and the quality is good.

Archer, 507.9 miles from Omaha, has 0.47 mile siding, frame depot, 1 story 8 by 18, section house and stock yards.

Cheyenne, 516.3 miles from Omaha, is the junction of the Denver Pacific Railway, and the branch line to Orin Junction, Wyo., and passenger and freight train district terminal, has 12,000 inhabitants, 3 banks, 8 churches, and 4 newspapers. Stock raising and mining are the chief industries. The yard consists of 20.16 miles sidings, passenger depot and offices, two stories, stone, 54 by 220; freight depot, 1 story frame, 35 by 156; coal chute (48 pockets), sand house, brick, 1 story, 23 by 30; sand bin, frame, 30 by 30; oil house, 2 stories, stone and brick, 27 by 38; engine house, stone, 20 stalls; engine house, brick, 10 stalls; storehouse, 1 story frame, 16 by 25; storehouse, 1 story frame, 12 by 24; turn table, iron, 60 feet; turn table (repair shop), cast iron, 55 feet 8 inches; boiler shop, 1 story, stone, 104 by 152, with an addition, 1 story, stone, 46 by 46; copper and tin shop, 1 story, stone, 53 by 76; 2 60-feet transfer tables, machine shop, 1 story, brick, 125 by 222, with addition, 1 story, brick, 50 by 133; blacksmith shop, 1 story, brick, 80 by 262, with addition for office, 1 story, brick, 20 by 28; paint shop, 1 story, brick, 150 by 191, with 2 additions, 1 12 by 18 and 1 30 by 60; car erecting shop, 2 stories, brick, 95 by 275; wood-working shop, 1 story, brick, 80 by 200, addition for boiler and engine room, 1 story, brick, 50 by 80; lumber drier, 1 story, frame, 18 by 77; 3 ice houses, frame, 30 by 40, 24 by 100, and 30 by 120; freight car repair shop, 1 story, brick, 71 by 202; office building, 2 stories, brick, 45 by 80; hose house, 1 story, frame, 21 by 30; track scales, 8 tenement section and bunk houses, stock yards and water tank. The water is supplied by city; the quantity is ample and the quality is good. In addition to above, there are a number of small buildings used for paint, oil, sand, and repair shops, etc. In the shops are employed about 400 men on general repairs of cars and locomotives. These shops are next to those of Omaha in capacity and are supplied with every modern improvement for doing all kinds of work. They are kept in the best of order, and the yards and whole appearance indicate careful supervision.

Colorado Junction, 521.9 miles from Omaha. Yard consists of 0.98 mile siding, depot, 1-story frame, 24 by 44, tenement house, section house, pump house, and water tank. The water supply is from a spring; the quantity is ample and the quality is good.

Borie, 526.6 miles from Omaha, has 0.69 mile of siding and section house only.

Otto, 530.7 miles from Omaha, has 0.73 mile siding, section house, bunk house, pump house, and water tank. The water supply is from a spring; the quantity is ample and quality is good.

Granite Cañon, 535.4 miles from Omaha, has 15 inhabitants. Stock raising is the main industry. The yard consists of 0.66 mile siding, 1-story frame depot 24 by 48, coal house 18 by 40, pump house, section house, bunk house, and water tank. The water supply is from a spring; quantity is ample and quality is good.

Buford, 542 miles from Omaha, has 0.79 mile siding, 1-story frame depot 16 by 18, section house, pump house and water tank. The water supply is from a spring; the quantity is ample and quality is good.

Sherman, 549 miles from Omaha, has 10 inhabitants. Stock raising is the only industry. The yard consists of 1.93 miles of siding, 1-story frame depot 24 by 48, addition 10 by 10; section house, pump house, and water tank. The water is supplied by a spring; quantity is ample and quality is good.

Tie Siding, 554.9 miles from Omaha, has 75 inhabitants. Stock raising and Tie Camp are the principal business. The yard consists of 0.89 mile siding, 1-story frame depot 20 by 44, and section house.

Red Buttes, 563.6 miles from Omaha, has 50 inhabitants. Stock raising is the principal business. The yard consists of 1.86 miles siding, depot, 1-story frame, 24 by 50; section house, bunk house, oil house, sand house, pump house, engine house (1 stall), and water tank. The water supply is from Spring Creek; the quantity is ample and the quality is good.

Sanders, 568.2 miles from Omaha, has 0.78 mile siding and section house only.

Laramie, 572.1 miles from Omaha, is the junction of the branch to Soda Lakes, Wyoming, and freight train district terminal, has 6,407 inhabitants, 3 banks, 8 churches, and 5 newspapers. The industries are an iron rolling mill, soda works, soap works, glass works, and brewery (the latter two not in operation now); also agriculture and stock-raising. The yard consists of 10.76 miles siding, freight house, 1-story frame, 30 by 104; blacksmith shop, 1-story stone, 76 by 102; machine shop, 1-story stone, 75 by 126, with addition, engine and boiler rooms, 1-story stone, 32 by 40; iron supply house, 1-story stone, 35 by 45; supply house, 1-story frame, 30 by 52; storehouse, 1-story frame, 16 by 16; paint house, 1-story stone, 29 by 40, with addition, 1-story frame, 12 by 16; roundhouse, stone, 20 stalls; turntable, iron, 60 feet; car repairers' shop, 1-story frame, 29 by 147; office, 1-story frame, 20 by 40; oil-house, 1-story frame, 19 by 28; offices, 2-story frame, 31 by 38; coal chute (60

pockets); ice house, 26 by 60; stock yards; car repairers' house, 1-story frame, 18 by 80; hotel, 2 stories frame, 36 by 175, with addition, 1-story frame, 21 by 22; hotel laundry, 2 stories frame, 30 by 30; battery house, 1-story frame octagon, 20 feet diameter; engine and boiler house, 1-story frame, 24 by 39; pump house, express and baggage rooms, 1-story frame, 20 by 32, with addition 18 by 24; rolling mills, 1-story stone, 113 by 237, with additions 33 by 47 stone, 33 by 49 frame, and 57 by 61 frame; machine house, 1-story stone, 35 by 71, with addition 26 by 51, stone; blacksmith shop, 1-story brick, 22 by 40; carpenter shop, 1-story frame, 20 by 46; storehouse, 1-story frame, 30 by 100; 16 tenement and section houses and water tank. Water supply is from a spring; the quantity is ample and quality is good. In addition to above there are a number of small buildings used for paint, oil, sand, coal, and repair shops, etc. In the shops are employed about 250 men on general repairs of cars and locomotives. These repair shops were found in good shape and well kept up.

Soda Works, 573.9 miles from Omaha. The yard consists of 0.98 mile siding, superintendent's house, 2-story frame 12 by 20, 2 bunk houses, stable, water tank, windmill, boiler and pump house, cauterizing house 1-story frame 20 by 22, laboratory 16 by 20. Building 44 by 142 with addition 18 by 53; boiler house 55 by 64; drying house 25 by 40; packing house 12 by 16, with addition 16 by 28. The water supply is from a well; the quantity is ample and the quality is good.

Wyoming, 586.5 miles from Omaha, has 25 inhabitants. Stock-raising is the chief business. The yard consists of 0.98 mile siding, 1-story frame depot 24 by 48, section house, pump house and water tank. The water is supplied from Laramie River; the quantity is ample and quality is good.

Huttons, 592.9 miles from Omaha, has 12 inhabitants. Stock-raising is the only business. Yard consists of 0.77 mile siding, 1-story frame depot 12 by 20, section house and stock yards.

Coopers Lake, 598.7 miles from Omaha, has tenement house, pump house, and water tank. The water is from a well on bank of Laramie River; the quantity is ample and quality good.

Lookout, 605.5 miles from Omaha, has 25 inhabitants. Stock-raising is the only industry. The yard consists of 0.96 mile siding, 1-story frame depot 24 by 50, and section house.

Harpers, 611.3 miles from Omaha, has 0.63 mile siding, 1-story frame depot, 12 by 20, section house, pump house and water tank. The water supply is from a well; the quantity is limited and quality is alkali.

Rock Creek, 622.5 miles from Omaha, has 35 inhabitants. Stock-raising is about the only industry. The yard consists of 1.42 miles siding, 1-story frame depot, 24 by 74, section house, tenement house, pump house, stock yards, and water tank. The water is supplied from Rock Creek; the quantity is ample and quality is good.

Aurora, 638.1 miles from Omaha, has 13 inhabitants. Stock-raising is the only industry. The yard consists of 0.56 mile siding, 1-story frame depot, 24 by 50, section house and water tank. The water supply is from a spring by gravity; the quality is good and quantity is ample.

Medicine Bow, 645.1 miles from Omaha, has 100 inhabitants. Stock-raising is the only industry. The yard consists of 4.34 miles siding, 1 story frame depot, 20 by 60, section house, 2 tenement houses, coal chute (32 pockets), stock yards, pump house, roundhouse (5 stalls), and water tank. The water supply is from Medicine Bow Creek; the quantity is ample and quality is alkali.

Allen Junction, 649.3 miles from Omaha, has 0.97 mile siding, and a 1-story frame depot, 24 by 60, and is the junction of branch line to coal mines at Hanna, Wyo.

Carbon, 656 miles from Omaha, has 800 inhabitants, 1 bank, 1 church, and 1 newspaper. Coal mining and stock-raising are the principal industries. The yard and mine tracks consist of 6.65 miles sidings, 1-story frame depot, 24 by 70, section house, tenement house, pump house and water tank. The water supply is from a well; the quantity is ample and quality is good. In addition to the above at the mines are 79 tenement houses, 4 engine and boiler houses, 3 blacksmith shops, 3 car repairer shops, 1 carpenter shop, 1 pump house, 1 office building, and 1 water tank.

Weed Tank is 671.1 miles from Omaha. The water supply is from a spring by gravitation; the quantity is ample and quality good.

Dana, 675 miles from Omaha, has 20 inhabitants. Stock-raising and mining are the chief industries. The yard consists of 3.24 miles siding, 1-story frame depot, 24 by 50, waterworks office, frame, 20 by 30, and water tank. The water is supplied by the Rattlesnake Creek Water Company; the quantity is ample and quality good.

Fort Steele, 694 miles from Omaha, has 100 inhabitants. Agriculture and stock-raising are the main industries. The yard consists of 0.85 mile siding, 1-story frame depot, 24 by 50, section house, 2 tenement houses, pump house and water tank. The water supply is from Platte River; the quantity is ample and quality good.

Rawlins, 709.2 miles from Omaha, is a freight train district terminal, has 3,000

inhabitants, 1 bank, 4 churches, and 2 newspapers. Mining and stock-raising are the principal industries. The yard consists of 8.91 miles sidings, 1-story frame depot, 24 by 89; hotel, 2½-story frame, 35 by 67, with addition 2½-story frame, 28 by 44; machine shop, 1-story stone, 76 by 79, with addition 1-story stone, 31 by 36; roundhouse, 20 stalls; turn-table, iron, 60 feet; storehouse, 1-story frame, 30 by 75; coal chute, 60 pockets; storehouse, 1-story frame, 27 by 47; office and paint shop, 1-story frame, 30 by 70; carpenter shop, 1-story frame, 16 by 52; coal house, frame, 30 by 162; pump house, 1-story stone, 20 by 30; offices, 1-story frame, 16 by 44; oil and ice house, 1-story frame, 20 by 65; freight house, 1-story frame, 30 by 100, with addition 1-story frame, 30 by 60; oil house, 1-story stone, 19 by 28; wool house, 1-story frame, 25 by 70; track scales, stock yards, 11 tenements, section and bunk houses and water tank. The water supply is from a well; the quantity is ample and quality is good. In addition to above there are a number of small buildings used for paint, oil, sand and repair shops, etc. In the shops are employed about 150 men on general repairs of cars and locomotives, and every thing about the buildings and yard have a neat appearance.

Riner, 724.3 miles from Omaha, has 0.69 mile siding, 1-story frame depot, 24 by 50, and section-house.

Fillmore, 730.7 miles from Omaha, has 0.73 mile siding, water tank, pump house, and 3 section houses. The water supply is from a well; the quantity is ample and quality is good.

Creston, 736.8 miles from Omaha, has 10 inhabitants, 0.70 mile siding, 1-story frame depot, 20 by 30, and 2 section-houses.

Wamsutter, 751.7 miles from Omaha, has 20 inhabitants; 2.57 miles siding, 1-story frame depot, 24 by 50, pump house, 3 section houses, coal chute (20 pockets), and water tank. The water supply is from a well; the quantity is ample and the quality is good. Stock-raising is the only industry.

Red Desert, 761.1 miles from Omaha, 0.70 mile siding, 3 section houses, pump house, and water tank. The water supply is from a well; the quantity is ample and quality good.

Bitter Creek, 784.5 miles from Omaha, has 15 inhabitants; 1.81 miles sidings, 1-story frame depot, 24 by 50, stock yards, section house, and water tank. The water supply is from a well; the quantity is ample and quality is good. The only industry is stock-raising.

Point of Rocks, 804.8 miles from Omaha, has 25 inhabitants; 0.88 mile siding, 1-story frame depot, 24 by 70, pump house, section house, and water tank. The water supply is from a well; the quantity is ample and quality good. Stock-raising is the only business.

At Rock Springs, 829.8 miles from Omaha, the main mines and plant of The Union Pacific Coal Company are located. It has 5,200 inhabitants, 2 banks, 7 churches, and 2 newspapers. Coal-mining and stock-raising are the main industries. The yard and mine tracks consist of 25.81 miles siding; 1-story frame depot, 24 by 111; 2 track scales; express office, 1-story frame, 16 by 24; roundhouse, 2 stalls; car-repairer house, 7 by 22; coal chute (10 pockets); stock yards, 5-section, tenement and bunk houses, and water tank. The water supply is taken from Green River Water Works Company's pipe line by standpipe; the quantity is ample and quality good. In addition to above are, at the mines, 144 small tenement houses, 7 blacksmith shops, 7 engine and boiler houses, 1 office building, 1 storehouse, 1 machine shop, 6 track scales, 1 carpenter shop, 1 car-repairer's shop, and 3 water tanks.

Green River, 844.9 miles from Omaha, is passenger and freight-train district terminal; has 1,000 inhabitants, 1 bank, 3 churches, and 1 newspaper. Stock-raising is the principal industry. The main pumping station of the Green River Water Works Company is located at this point. The yard consists of 10.71 miles siding; 1-story frame passenger depot, 24 by 50; hotel, 2½-story frame, 32 by 80, with addition, 2-story frame, 34 by 78, and addition, 1-story frame, 16 by 46; dispatcher's office, 1-story frame, 20 by 30; office, 1-story frame, 18 by 36; boiler house, 1-story frame, 9 by 20; blacksmith shop, 1-story frame, 36 by 44; iron house, 1-story frame, 18 by 20; machine shop, 1-story frame, 40 by 70; car shops, 1 story frame, 35 by 145; coal chute (32 pockets); track scales, 90,000 pounds capacity; roundhouse, stone, 10 stalls; roundhouse, stone, 15 stalls; turntable, iron, 60 feet; ice house, 31 by 101; freight house, 1-story frame, 30 by 80; ice house, 30 by 60; 10 tenement and section houses, and water tank. The water supply is taken from Green River Water Works by standpipe. In addition to above there are a number of small buildings used for paint, oil, sand, and repair shops, etc. In the shops are employed about 115 men on general repairs of cars and locomotives, and everything has the appearance of neatness and order.

Bryan, 858.4 miles from Omaha, has 15 inhabitants, 0.88 miles siding, 1-story frame depot, 24 by 50, and section house. Stock-raising is the only business.

Bryan Tank, 863 miles from Omaha, has a pump house and water tank. The water supply is taken from Blacks Fork; the quantity is ample and quality good.

Granger, 875.4 miles from Omaha, is junction of branch line to Portland, Oregon,

known as the Oregon Short Line; has 60 inhabitants. Stock-raising is the principal industry. The yard consists of 0.87 mile siding; 1-story frame depot, 20 by 96; 4 section and tenement houses, pump house, and water tank. The water supply is taken from Blacks Fork; the quantity is ample and quality good.

Church Buttes Tank, 889 miles from Omaha, has pump house and water tank. The water supply is taken from Blacks Fork; the quantity is ample and quality good.

Carter, 903.9 miles from Omaha, has 30 inhabitants, 0.67 mile siding, 1-story frame depot, 24 by 100, and 2 section houses. The only industry is stock-raising.

Bridger, 913.1 miles from Omaha; 0.88 mile siding; depot, 1-story frame 24 by 50, pump house, and water tank. Water supply is taken from creek; the quantity is ample and quality good.

Piedmont, 928.3 miles from Omaha, has 95 inhabitants; 1.15 miles siding; 1-story frame depot, 24 by 50; roundhouse, 2 stalls; pump house, 3 section houses, and water tank. The only industry is stock-raising. The water supply is from a well; the quantity is ample and quality good.

Aspen, 937.5 miles from Omaha, has 25 inhabitants; 0.67 mile siding; depot, 1-story frame, 20 by 44; pump house; 2 section houses, and water tank. Stock-raising is the only industry. Water supply is from a well; the quantity is limited but the quality good.

Hilliard, 942 miles from Omaha, has 35 inhabitants; 0.73 mile siding; depot, 1-story frame, 20 by 40, and 2 section houses. Stock-raising is about the only business.

Evanston, 955.2 miles from Omaha, is freight-train district terminal; has 2,500 inhabitants, 2 banks, 6 churches, and 2 newspapers. The industries are a flouring mill and stock-raising. The yard consists of 5.15 miles siding; 1-story frame depot, 24 by 80; hotel, 2-story frame, 32 by 80, with addition 35 by 78; supply house, 1-story frame, 16 by 51; freight house, 1-story frame, 35 by 107, with addition, 1-story frame, 12 by 35; stock yards; ice house, 1 story frame, 30 by 80; coal chute (24 pockets); carpenter shop, 1-story frame, 20 by 60; roundhouse, 20 stalls; turntable, iron, 55 feet; office, 1-story frame, 20 by 40; boiler house, 1-story frame, 31 by 25, with addition, 1-story frame, 10 by 11; blacksmith shop, 1-story frame, 60 by 135; car shop, 1-story frame, 30 by 144, with addition, 1-story frame, 12 by 24; hose house, 1-story frame, 14 by 24; storehouse, 1-story frame, 24 by 40, with addition, 1-story frame, 18 by 22; oil house, 1-story frame, 18 by 69; sand house, 1-story frame, 20 by 30; pump house; coal house; 1-story frame, 18 by 125; 15 tenement and section houses, and water tank. The water supply is taken from Bear River; the quantity is ample and quality good. In addition to above there are a number of small buildings used for paint, oil, sand, and repair shops, etc. In the shops are employed about 125 men on general repairs of cars and locomotives. The whole appearance of the shops indicates careful supervision.

Almy Junction, 956.7 miles from Omaha, is junction of branch line to Almy; has 0.42 mile siding; 1-story frame depot, 16 by 36; track scales, and 2 section houses.

Almy, 5.5 miles from Almy Junction; 2,200 inhabitants and 3 churches. Coal. mining and stock-raising are the main industries. The yard and mine tracks consist of 3.52 miles sidings, 101 tenement houses, 2 engine and boiler houses, 3 track scales, 2 blacksmith shops, 1 carpenter shop, 2 pump houses, 1 office building and 1 tank.

Wahsatch, 966.3 miles from Omaha; has 10 inhabitants; 0.96 mile siding; 1-story frame depot 20 by 36; section house, and water tank. Stock-raising is the only business. The water supply is taken from a spring by gravitation; the quantity is limited, and quality good.

Castle Rock, 974.6 miles from Omaha; has 40 inhabitants; 0.90 miles siding; 1-story frame depot, 24 by 50; section house; wind-mill, and water tank. Stock-raising principal industry. The water supply is from a well; the quantity is ample and the quality good.

Emery, 981.4 miles from Omaha; 0.46 mile siding, section house and water tank. The water supply is from a spring by gravitation; the quantity is ample and the quality good.

Echo, 991.1 miles from Omaha; is the junction of branch to Park City and Grass Creek coal mines; has 500 inhabitants and 1 church. Mining, agriculture, and stock-raising are the only industries. The yard consists of 2.61 miles siding; 1-story frame depot 26 by 60; track scales; 2 section houses; coal chute (32 pockets); roundhouse; 4 stalls; pump house, and water tank. The water supply is taken from Weber River; the quantity is ample and quality is good.

Weber, 1,006.6 miles from Omaha; has 750 inhabitants, 2 churches; 0.76 mile siding; depot, 1-story frame, 20 by 80; section house, and water tank. Agriculture and stock-raising are the chief business. The water supply is from a spring by gravitation; the quantity is ample and quality good.

Peterson, 1,014 miles from Omaha, has 70 inhabitants and 1 church; 0.50 mile siding; 1-story frame depot, 20 by 75, and section house. Agriculture and stock-raising the only industries.

Strawberry, 1,017.6 miles from Omaha, has water tank only. The water supply is from a spring by gravitation; the quantity is ample and quality good.

Uintah, 1,023.6 miles from Omaha, has 250 inhabitants; 1 church; 0.53 mile siding; 1-story depot, frame, 24 by 26, with addition 14 by 16, and 2 section houses. Agriculture and stock-raising the main business.

Ogden, 1,031 miles from Omaha, is the terminus of the aided portion of the main line operated by this company, also passenger and freight train district terminal, and is the junction with Central Pacific Railroad, Rio Grande Western and Oregon Short Line and Utah Northern Railway to Salt Lake and southern Utah and Butte and Garrison, Mont.; it has 15,000 inhabitants, 5 banks, 11 churches, and 1 newspaper. The industries are brick-making, canning factories, breweries, sash and door factories, creamery, agriculture and stock-raising. The yard consists of 10.75 miles siding, 2-story brick union passenger station, 64 by 267, annex, 2-story brick, 50 by 129; supply house, 1-story brick, 24 by 143; ice house, 1-story frame, 30 by 100; union freight depot, 1-story frame, 36 by 312 (the center 36 by 109 feet being 2 stories for offices); engine house, 1-story brick, 20 stalls; turntable, iron, 60 feet; sand house, 1-story frame, 23 by 30; oil house, 2 stories, brick and stone, 20 by 28; coal chute, (40 pockets); ice house, 1-story frame, 30 by 340; car-repairers' shop, 1½-story frame, 20 by 42; repair shop, 1-story frame, 12 by 44; 2 section houses, yard master's office, 1-story frame, 16 by 26; hospital, 1-story brick, 36 by 106; stock yards; pump house, and water tank. The water supply is from a well; the quantity is ample and the quality good. In addition to above there are a number of small buildings used for paint, oil, sand, and repair shops, etc. In shops are employed about 65 men on general repairs. The union building and yard are owned jointly with other companies.

The physical conditions of the bonded portion of the Union Pacific Railroad from Omaha to Ogden and of the Kansas Pacific Railway to a point 394 miles west of Kansas City are so nearly identical, so far as the latter extends, that one description will serve for both.

The State of Nebraska is divided into three sections, owing to climate and products, which make natural divisions of the State from east to west. The eastern section lies between the east line of the State and Columbus, and has an average annual precipitation of from 27 to 30 inches. The central section embraces the country between Columbus and North Platte, and its average annual rainfall is from 21 to 27 inches. The western section lies between North Platte and the west line of the State, and has an average annual precipitation of from 15 to 21 inches. Kansas is also divided into three sections in like manner for the same causes. The eastern section is between the east line of the State and Salina, and has an average annual fall of rain of from 35 to 40 inches. The central section lies between Salina and Hays City, and its average annual precipitation is from 25 to 30 inches. The western section is found between Hays City and west line of State, and the average annual precipitation is from 16 to 20 inches.

The State of Wyoming is divided into three sections owing to climate and products. The eastern section is located between the east line of the State and Aurora, and has an average annual rainfall of from 8 to 14 inches. The central section comprises the belt between Aurora and Granger, and has an annual precipitation of about 11 inches. The western section covers the country between Granger and west line of the State, and its average annual rainfall is about 8 inches.

The line through Utah, embracing that portion of the country between the east line of the Territory and Ogden, has an average annual precipitation of about 13 inches.

The soil and products of the various corresponding sections of Nebraska and Kansas are about identical, except that in the central section of Nebraska sugar beets are grown quite extensively; therefore the following will apply to the corresponding sections of both States:

The eastern section is more varied in its topography and the quality of its soil than either of the other divisions. Its numerous valleys, many of them one or more miles wide, are rich in fertile soil. These valleys produce successfully all the products of a temperate zone; but corn is the principal crop and beef and pork the main products. The uplands are generally broken and fertile and in places equal to the valley lands. Corn predominates on the upland farms also, but the list of crops is more varied and fruit has more attention than in the valleys.

The central section presents a uniformly gently rolling prairie and soil of great fertility and unlimited depth. The small percentage of waste land within its limits is exceptional. Over 90 per cent. can be cultivated, and the acreage under cultivation is much larger than in the eastern section. The soil is preëminently a wheat soil, although its eastern half leads the State in percentage of area planted in corn. Wheat predominates in the western half; corn in the eastern half. Broom corn is a prominent product, and one of the surest crops for all years. Fruit is also becoming a feature of every farm.

The western section is the western border land of agriculture. The deficient rainfall makes the crops dependent upon irrigation which is carried on to a large extent. Most lands are used for grazing, but wheat, broom corn, sorghum, kaffir corn, and beans are necessarily raised upon limited areas. These sections in both Nebraska and Kansas are covered by a network of competing lines of road.

The State of Wyoming has been essentially a grazing State, the valleys between the mountains supplying natural pasturage to immense herds of stock. The ranges have been gradually deteriorating. The lands bordering upon the streams are of a sandy loam, which prove very fertile when irrigated, but the crops raised are limited largely to home consumption. The central portion of the State has coal deposits.

Through Utah the main line of the Union Pacific traverses only the eastern 70 miles of the Territory, which is very mountainous, the road being confined in narrow, rocky canyons for most of its length.

KANSAS PACIFIC RAILROAD.

Inspection was made early in June from Kansas City to a point 394 miles west. The track was found in fairly good condition, though in places not in very good line or surface, and quite a proportion of the ties were beginning to show evidence of age.

The ruling grades are low as the line follows the valley of Kansas River and its tributaries. It lies largely within the rain belt, and the natural soil is not so favorable for a good roadbed as that of the main line and more ballasting in proportion has been found necessary. The following table gives the ballast in detail:

Station.		Kind.				
From—	To—	Natural soil.	Broken stone.	Cinders.	Burnt clay.	Total.
		Miles.	*Miles.*	*Miles.*	*Miles.*	*Miles.*
Kansas City	Junction City	83.19	24.54	28.80	2.17	138.70
Junction City	Ellis	149.40	1.00	13.50	.....	163.90
Ellis	394th mile	90.20	.....	1.20	.....	91.40
	Total	322.79	25.54	43.50	2.17	394.00

The cross-ties are mostly oak, with some cedar, and have been upon an average about five and one-half years in the track—more than half their ordinary life.

The steel has been in the track all the way from a few months to twelve years, the heavy steel having been laid during the past four years. The following is a detailed statement of the location and length of the different weights of rail:

Station.		Steel weight per yard.						
From—	To—	52 pounds.	59 pounds.	60 pounds.	67 pounds.	70 pounds.	75 pounds.	Total.
		Miles.	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*
Kansas City	Junction City	1.20	.....	40.90	23.90	.....	72.70	138.70
Junction City	Ellis	.....	10.20	113.30	.....	23.40	17.00	163.90
Ellis	394th mile	.....	.....	91.40	.....	.....	.....	91.40
	Total	1.20	10.20	245.60	23.90	23.40	89.70	394.00

The character and age of the principal bridges are as follows: Iron trusses over Kansas River at Kansas City, erected in 1882 and over Mill Creek in 1877. Pratt iron trusses over Big Stranger Creek, erected in 1879, over Mud Creek in 1880, Grasshopper Creek in 1882, Soldier Creek in 1879, Vermillion River in 1879, Blue River in 1879, Wild Cat Creek in 1885, Republican River in 1879. Chapman Creek in 1879, Solomon River in 1880, and a plate girder over Cross Creek, erected in 1889. The age and condition of each individual structure was not ascertained.

The office building at Kansas City, depots at Lawrence, Fort Riley, and Junction Cityare new, and were built during the past few years. The remainder of the structures are from, three to fifteen years old; but as repairs have been constantly going on and renewals made from time to time, a very large proportion of them were found to be in excellent order and neatly kept.

The improvements under way and contemplated are quite extensive. It is proposed to put in 2 miles of new sidings at Armstrong, and spurs are to be extended at

Muncy, Loring, Buck Creek, Grantville, Kansas Falls, and Bavaria. About 10 miles of cuts are to be widened and about 4 miles of cinder ballast to be put in 10 inches deep. The depot at Salina is to be remodeled and the stock yards at St. Mary's and Belvue are to be rebuilt and enlarged. The buildings at Perryville, Topeka, Rossville, St. Mary's, Wakeeney, Buffalo Park, Grainfield, Grinnell, and Oakley have been painted since last January, and those at Muncy, Edwardsville, Bonner Springs, Lenape, Linwood, Bismark Grove, Arcola, Ellsworth, Dorrance, Walker, and Hays are to be painted during the year. Ten iron bridges are to be painted and 30 bridges to be renewed. The superstructures to 25 bridges are to be renewed and the foundations to 2 others renewed.

The following is a detailed statement of the characteristics of the different stations along the line:

Kansas City is the terminal of the Kansas division, and has 140,000 inhabitants, 25 banks, 125 churches, and 22 newspapers. The industries are packing, smelting, and jobbing. The Union Pacific yards are in excellent condition and contain 7.95 miles sidings. The principal buildings are Union Passenger Station, a 2-story brick 51 by 385, with addition, 1-story brick 48 by 60; express and office buildings, 2½-story brick 39 by 335, with addition 1-story brick 52 by 45; office building, 3-story brick 50 by 114; freight house, 1-story frame 32 by 251, with addition 2-story frame 32 by 47, and addition, 1-story frame and brick 33 by 212. The water is supplied by the city mains from the Missouri River; the quantity is ample and quality good.

Armstrong, 1.8 miles from Kansas City, and a suburb of same, is the location of the principal shops of the Kansas division; has about 500 inhabitants and 2 churches. yard consists of 24.28 miles siding; a 2-story frame depot 32 by 42, with addition, 1-story frame 14 by 31; storehouse, 1-story frame 30 by 141; coal chute, 40 pockets; boiler shop, 1-story frame 38 by 140; blacksmith shop, 1-story frame 53 by 164, with addition 40 by 65; wrecking shop, 1-story frame 111 by 124, with two additions, one 8 by 12 and one 80 by 152; brass foundry, 1-story frame 25 by 35; tin shop, 1-story frame 25 by 46; iron storehouse, 1-story frame 23 by 53, with addition 16 by 18; oil house, 1-story brick 42 by 42; wood working machine shop, 1-story frame 80 by 121; boiler house, 1-story brick 24 by 48; dry house, 1-story brick 16 by 60; pump house, 1-story brick 18 by 30; car shop, 1½-story frame 71 by 250; paint shop, 1½-story frame 75 by 100; paint storehouse, 1-story brick 12 by 35; car repairers' shop, 1-story frame 16 by 30; roundhouse, frame, 8 stalls; roundhouse, brick, 10 stalls; turntable, iron, 54 feet; 2 ice houses, 1-story frame 32 by 132 and 25 by 61, and water tank. The water supply is from the city mains and Kansas River; the quantity is ample and quality good. In addition to the above there are a number of small buildings used for paint, oil, sand, and repair shops, etc. In the shops are employed about 460 men on general repairs of cars and locomotives. The general appearance of the shops indicates careful supervision.

Edwardsville, 13.3 miles from Kansas City, has 300 inhabitants and 3 churches, 0.86 miles siding, a 1-story frame depot 30 by 53, pump house, and water tank. The water supply is from a creek; the quantity is limited but the quality is good. The industries are canning factory, agriculture, and stock-raising.

Bonner Springs, 16.9 miles from Kansas City, has 400 inhabitants, 1 church, 0.67 miles siding, a 1-story frame depot 20 by 52, and stock yards. Agriculture and stock-raising are the industries.

Loring, 20.2 miles from Kansas City, has 20 inhabitants, 1 church, 0.42 miles siding, 1-story frame depot 20 by 48, and stock yards. The industries are agriculture and stock-raising.

Lenape, 22.9 miles from Kansas City, has 60 inhabitants, 1 church, 1 gristmill, 0.76 miles siding, a 1-story frame depot 25 by 30, and stock yards. Agriculture and stock-raising are the industries.

Linwood, 27.5 miles from Kansas City, has 400 inhabitants, 1 church, 0.94 miles siding, a 1-story frame depot 30 by 40, stock yards, pump house, and water tank. The industries are agriculture and stock-raising. The water supply is from Stranger Creek; the quantity is ample and quality good.

At Bismarck Grove, 38 miles from Kansas City, are the handsome exposition grounds and race course owned by the railroad company; there are 0.18 miles siding, pump house, and water tank. The water supply is from a well; the quantity is ample and quality good. In addition to above the principal exposition buildings are carriage shed, 1-story frame 56 by 99; machinery hall, 1-story frame 50 by 232; art gallery, 1-story frame 35 by 70; county display building, 1-story frame 58 by 120, with 2 additions 58 by 48 each; main exhibition building, 1-story frame 60 by 136, with 2 additions 52 by 60 each; tabernacle, octagonal, inclosing an area of 8,876 square feet; 3 dining halls, 20 by 80 each; grand stand 44 by 320, and numerous stables, sheds, and small buildings to complete exposition plant.

Lawrence, 39.1 miles from Kansas City, is junction point of branch line to Leavenworth; has 12,000 inhabitants, 4 banks, 23 churches, and 4 newspapers. The in-

dustries are flouring, nail, and paper mills, barb wire, shirt, and canning factories, agriculture and stock-raising. The yard consists of 4.12 miles siding, passenger depot, a 1-story stone 28 by 153, freight depot, a 1-story frame 26 by 190, engine house of 2 stalls, stock yards, a wooden 54-foot turntable, track scales, and water tank. The water supply is from the city mains; the quantity is ample and the quality good.

Williamstown, 48.1 miles from Kansas City, has 125 inhabitants, 1 church, 0.69 miles siding, and stock yards. The industries are agriculture and stock-raising.

Perryville, 51.3 miles from Kansas City, has 600 inhabitants, 1 bank, 5 churches, and 1 newspaper, 0.93 miles siding, 1-story frame depot 30 by 50, wind-mill, and water tank. The water supply is from a well; the quantity is ample and the quality good. Agriculture and stock-raising are the main industries.

Medina, 52.8 miles from Kansas City, has 50 inhabitants, 0.20 miles siding, 1-story frame depot 28 by 80, and stock yards. The only industries are agriculture and stock-raising.

Newman, 55.3 from Kansas City, has 25 inhabitants, 1 church, 0.66 miles siding, 1-story frame depot 18 by 42, and stock yards. Industries, agriculture and stock-raising.

Grantville, 60.5 miles from Kansas City, has 150 inhabitants, 1 church, 0.78 miles siding, 1-story stone depot 20 by 64, section house, and stock yards. Agriculture and stock-raising are the principal industries.

Topeka, 67.2 miles from Kansas City, is the capital of Kansas, has about 46,000 inhabitants, 9 banks, 63 churches, and 7 newspapers. The industries are flouring mills, factories, and machine shops, agriculture, and stock-raising. The yard consists of 4.78 miles of siding; hotel and passenger depot, 3-story brick, 45 by 140, with addition, 1-story brick, 24 by 24; coal chute (8 pockets); hotel laundry, 2-story brick, 16 by 30, with addition, 1-story brick, 18 by 20; ice house, 32 by 32; engine house, 2 stalls; wooden 54-foot turntable; freight depot, 1-story frame, 30 by 150; track scales, stock yards, pump house, car inspector's shop, and water tank. The water supply is from a well; the quantity is ample and quality good.

Menoken, 71.9 miles from Kansas City, has 17 inhabitants, 0.79 mile siding, 1½-story frame depot, 16 by 30, and stock yards. Agriculture and stocking-raising the main business.

Silver Lake, 77.8 miles from Kansas City, has 300 inhabitants, 2 churches, 0.85 mile siding, 1-story stone depot, 20 by 60, and stock yards. The principal business is agriculture and stock-raising.

Kingsville, 80.5 miles from Kansas City, has 10 inhabitants, 0.33 mile siding, 1-story frame depot, 24 by 52, and stock yards. Agriculture and stock-raising the principal industries.

Rossville, 83.3 miles from Kansas City, has 600 inhabitants, 1 bank, 5 churches, and 2 newspapers, 0.58 mile of siding; 1-story frame depot, 22 by 50; stock yards, windmill, and water tank. The industries are agriculture and stock-raising. The water supply is from a well; the quantity is ample and quality good.

St. Marys, 90.9 miles from Kansas City, has 1,378 inhabitants, 2 banks, 5 churches, 2 newspapers, 1.34 miles sidings, 1-story frame depot, 20 by 62, and stock yards. The industries are flour mill and agriculture and stock-raising.

Belvue, 97.1 miles from Kansas City, has 270 inhabitants, 2 churches, 1-story frame depot, 25 by 45, and stock yards. The business is principally agriculture and stock-raising.

Wamego, 104 miles from Kansas City, has 2,000 inhabitants, 2 banks, 7 churches, and 3 newspapers. The industries are broom factory, flouring mill, agriculture, and stock-raising. The yard consists of 3.17 miles siding, 1-story frame depot, 34 by 36, with addition, 30 by 104; pump house, stock yards, track scales, and water tank. The water supply is from a well; the quantity is ample and quality good.

St. George, 110.6 miles from Kansas City, has 165 inhabitants, 2 churches, 0.54 mile siding, 1-story frame depot, 30 by 50, and stock yards. Agriculture and stock-raising are the principal industries.

Manhattan, 118.5 miles from Kansas City, is the junction of branch line north to Valley, Nebr., has 3,100 inhabitants, 2 banks, 9 churches, and 3 newspapers. The industries are flouring mill, foundry, agriculture, and stock-raising. The yard consists of 2.12 miles siding, 1-story frame depot, 30 by 80, with addition, 36 by 36; pump house, track scales, stock yards, and water tank. The water supply is from a well; the water is from Big Blue River; the quantity is ample and quality good.

Eureka Lake, 124.8 miles from Kansas City, 0.78 mile siding, stock yards, windmill, and water tank. The water supply is from a well, and the quantity is ample and quality good.

Ogdensburg, 129.5 miles from Kansas City, has 250 inhabitants, 2 churches, 0.45 mile siding, 1-story frame depot, 12 by 30; stock yards, and feed mill. Agriculture and stock-raising are the industries.

Fort Riley, 134.9 miles from Kansas City, is United States military post, has 1,200

inhabitants, 1 church, 1.05 miles siding, passenger depot, 1-story stone, 24 by 56; freight depot, 1-story frame, 16 by 40; track scales, and stock yards. The chief business is agriculture and stock-raising.

Junction City, 138.7 miles from Kansas City, is the junction of the branch line to Concordia and Belleville, Kans., and freight train district terminal, has 5,000 inhabitants, 2 banks, 14 churches, and 4 newspapers. The industries are flouring mill, foundry, planing mill, agriculture, and stock-raising. The yard consists of 5.30 miles siding; passenger depot, 1-story stone, 38 by 122; freight depot, 1-story frame, 30 by 90; stock yards, track scales, car repairers' shop, 14 by 32; ice house, 33 by 73; round-house, 12 stalls; turntable, iron, 54 feet; coal chute (32 pockets), boiler house, sand and oil house, 16 by 50; carpenter shop, 30 by 49; blacksmith shop, 20 by 30; car repairers' shop, 14 by 23; and water tank. The water is supplied by the city; the quantity is ample and quality good. In addition to above there are a number of small buildings used for paint, oil, sand, and repair shops, etc. In the shops are employed about 30 men on general repairs.

Chapman, 151.5 miles from Kansas City, has 600 inhabitants, 1 bank, 4 churches, 1 newspaper, 0.72 mile siding, 1-story frame depot, 30 by 35; windmill, water tank, and stock yards. The industries are one flour mill, agriculture, and stock-raising.

Detroit, 157.6 miles from Kansas, is the junction of the Enterprise Spur with main line, has 200 inhabitants, 1 church, 0.36 mile siding, 1-story frame depot, 20 by 62, and stock yards. The business consists of agriculture and stock-raising.

Abilene, 162.9 miles from Kansas City, has 3,560 inhabitants, 3 banks, 15 churches, and 6 newspapers. The industries are a flouring mill, creamery, agriculture, and stock-raising. The yard consists of 2.53 miles siding; hotel and passenger depot, 3-story brick, 42 by 154; freight depot, 1-story frame, 30 by 53, with addition, 50 by 30; stock yards, pump house, and water tank. The water is supplied by the city; the quantity is ample and quality good.

Solomon, 171.6 miles from Kansas City, is the junction of the branch line to Beloit, Kans.; has 1,200 inhabitants, 1 bank, 6 churches, and 1 newspaper. Industries are flouring mill, salt works, agriculture, and stock-raising. The yard consists of 2.33 miles siding, 1-story depot, 30 by 107; ice house, 32 by 32; stock yards, pump house, roundhouse of 2 stalls, car repair shop, and water tank. The water is supplied from Solomon River; the quantity is ample and quality good.

New Cambria, 179.6 miles from Kansas City, has 250 inhabitants, 1 church, 0.70 mile siding, 2-story stone depot, 40 by 50, and stock yards. Farming and stock-raising are the principal industries.

Salina, 185.6 miles from Kansas City, is the junction of the branch lines to McPherson and Colby, Kans.; has 6,500 inhabitants, 4 banks, 16 churches, and 5 newspapers. The industries are flour mills, paper mill, agriculture, and stock-raising. The yard consists of 3.74 miles siding; passenger depot, 1-story frame, 24 by 123; freight depot, 1-story frame, 30 by 108; coal chute (8 pockets); ice house, 32 by 32; sand and oil house, 14 by 66; 2½-story frame hotel, 37 by 60; with addition 24 by 24; stock yards, pump house, water tank, and round house of 4 stalls. The water supply is from a well; the quantity is ample and quality good. There are about 15 men employed on general repairs of cars, etc.

Bavaria, 194.1 miles from Kansas City, has 75 inhabitants, 1 church, 0.76 mile siding; 1-story stone depot, 30 by 71, and stock yards. The industries are agriculture and stock-raising.

Brookville, 200.7 miles from Kansas City, has 400 inhabitants, 1 bank, 3 churches, and 1 newspaper, 2.09 miles siding, 1-story frame depot, 30 by 94, and stock yards. Agriculture and stock-raising are the industries.

Arcola, 204.6 miles from Kansas City, 0.41 mile siding, pump house and water tank. The water is from a creek; the quantity is ample and quality good.

Carneiro, 210.9 miles from Kansas City, has 63 inhabitants, 1 church, 0.56 mile siding, 1-story stone depot, 20 by 48, and stock yards. Grain and stock are the principal products.

Kanapolis, 218.4 miles from Kansas City, has 600 inhabitants, 1 bank, 2 churches, 1 newspaper, 1.77 miles siding, 1-story stone depot, 20 by 48, and stock yards. The industries are salt works, agriculture, and stock-raising.

Ellsworth, 222.9 miles from Kansas City, has 1,700 inhabitants, 2 banks, 5 churches, 2 newspapers, 1.83 miles siding, 1-story stone depot, 30 by 80; section house, pump house, stock yards, and water tank. The industries are 1 creamery, 1 pottery, 1 flour mill, and agriculture, and stock-raising. The water is supplied by springs; the quantity is ample and quality good.

Black Wolf, 230.9 miles from Kansas City, has 50 inhabitants, 0.47 mile siding, 1-story frame depot, 20 by 40, and stock yards. Agriculture and stock-raising are the chief industries.

Wilson, 239.2 miles from Kansas City, has 1,100 inhabitants, 2 banks, 5 churches, 1 newspaper, 0.74 mile siding, 1-story stone depot, 30 by 100; section house, and

stock yards. The industries are 1 flour mill, 1 creamery, agriculture, and stock-raising.

Dorrance, 245.7 miles from Kansas City, has 250 inhabitants, 1 church, 0.46 mile siding; depot, 1-story frame, 20 by 48; stock yards, pump house, and water tank. Farm products and stock are main industries. The water supply is from a well; the quantity is medium and the quality only fair.

Bunker Hill, 252.8 miles from Kansas City, has 200 inhabitants, 2 churches, 0.33 mile siding; 1-story frame depot, 30 by 40; section house, and stock yards. The industries are 1 mill, boiler and machine shop, agriculture, and stock-raising

Russell, 262.6 miles from Kansas City, has 1,150 inhabitants, 2 banks, 6 churches, 2 newspapers, 0.90 mile siding, 1-story stone depot, 24 by 80; tenement house, stock yard, pump house, and water tank. Agriculture and stock-raising are the industries. The water supply is from a well; the quantity is limited, but the quality is good.

Gorham, 271.8 miles from Kansas City, has 125 inhabitants, 0.31 mile siding; 1-story frame depot, 20 by 48, and stock yard. Agriculture and stock-raising are the industries.

Walker, 274.9 miles from Kansas City, has 56 inhabitants, 0.39 mile siding; 1-story frame depot, 20 by 48; stock yards, pump house, and water tank. The industries are agriculture and stock-raising. The water supply is from a well; the quantity is limited, though the quality is good.

Victoria, 278.8 miles from Kansas City, has 900 inhabitants, 1 bank, 2 churches, flouring mill, 0.31 mile siding, 2-story stone depot, 30 by 60; and stock yards. Grain and stock are the principal products.

Hays, 289 miles from Kansas City, has 1,800 inhabitants, 2 banks, 7 churches, and 2 newspapers; 0.96 mile siding, 1-story frame depot, 30 by 80, with addition, 30 by 36; stock yards, pump house, and water tank. Agriculture and stock-raising are the industries. The water supply is from a creek; the quantity is ample and the quality good.

Ellis, 302.5 miles from Kansas City, is passenger and freight train district terminal; has 1,100 inhabitants, 1 bank, 4 churches, and 1 newspaper. Agriculture and stock-raising are the principal industries. The yard consists of 4.51 miles siding; hotel and passenger depot, 3 stories, stone, 34 by 104, with two additions, one 20 by 30; and one 24 by 24; hotel laundry, 1½ stories, stone, 18 by 30; freight depot, 2-stories frame, 18 by 36; roundhouse, stone, 14 stalls; turntable, iron, 55 feet; blacksmith shop, 1-story frame, 30 by 56; tinshop, 1-story frame, 16 by 20; carpenter shop, 1-story frame, 22 by 40; machine shop, 1 story, 30 by 60, with two additions, one 10 by 20 and one 25 by 39; repair and paint shop, 1-story frame, front 55 feet, rear 100 by 58 feet deep; a coal chute (24 pockets), ice house, 32 by 80, addition, 30 by 80; track scales, stock yards, water tank. The water is supplied from a creek; the quantity is ample and the quality good. In addition to above there are a number of small buildings used for paint, sand, oil, and repair shops, etc. In the shops are employed about 105 men on general repairs of cars and locomotives.

Wakeeney, 321.7 miles from Kansas City, has 380 inhabitants, 1 bank, 4 churches, 2 newspapers, 0.68 mile siding, 1-story stone depot, 33 by 100; stock yards, pump house, water tank, and windmill. Agriculture and stock-raising are the industries. The water supply is from a well; the quantity is medium only, while the quality is good.

Collyer, 335.1 miles from Kansas City, has 75 inhabitants, 2 churches, clay mines, 0.72 mile siding, 1-story frame depot, 24 by 48; pump house, and water tank. Agriculture and stock-raising are the industries. The water supply is from a well; the quantity is ample and quality good.

Quinter, 342.7 miles from Kansas City, has 120 inhabitants, 1 bank, 2 churches, 1 newspaper, 0.50 mile siding, 1-story frame depot, 20 by 48. The industries are a brickyard, broom factory, agriculture, and stock-raising.

Buffalo Park, 349.9 miles from Kansas City, 0.33 mile siding, waiting room, 10 by 20; telegraph office, 13 by 16; freight house, 20 by 32; section house, stock yards, pump house, and water tank. The water supply is from a well; the quantity is medium and quality good.

Grainfield, 355.7 miles from Kansas City, has 250 inhabitants, 2 churches, 1 newspaper, 0.88 mile siding, 1-story frame depot, 24 by 40; and stock yards. Agriculture and stock-raising are the main industries.

Grinnell, 364.5 miles from Kansas City, has 56 inhabitants, 0.38 mile siding, 1-story frame depot, 20 by 48; section house, pump house, stock yards, and water tank. The water supply is from a well; the quantity is ample and quality good. Stock and grain are the chief products.

Oakley, 376.7 miles from Kansas City, is the junction of a branch line to Colby, Kans., has 350 inhabitants, 1 bank, 2 churches, and 1 newspaper. The industries are flouring mill, agriculture, and stock-raising. The yard consists of 0.97 mile siding, 1-story frame depot, 24 by 60; stock yards, coal chute (8 pockets), 2 section houses, pump house, and water tank. The water supply is from a well; the quantity is ample and quality good.

Monument, 385.4 miles from Kansas City, has 35 inhabitants, 1 church, 0.51 mile siding, 1-story frame depot, 20 by 48; section house, bunk house, pump house, and water tank. Its industries are agriculture and stock-raising. The water supply is from a well; the quantity is medium but the quality is good.

CENTRAL PACIFIC RAILROAD.

The bonded portion of the Central Pacific, extending from Ogden, Utah, to San Jose, Cal., a distance of 869.62 miles, including the 5 miles from Ogden west, built by the Union Pacific, but used by the Central Pacific, and 0.11 of a mile over the nonaided line at Ogden; also 5.64 of nonaided trackage over the Northern Railway from Sacramento to Brighton, is operated under lease by the Southern Pacific Company.

Inspection was made during the middle of May. The track was found in very good shape from Ogden to Sacramento in both surface and line, with the exception of some portions of the Humboldt Valley; but from Sacramento to San Jose it had not entirely recovered on the lowlands from the effects of the rainy season. In fact, along the whole line, owing to the better class of roadbed material and more careful supervision, the mountain and upland grades were found in better condition than those in the valleys. Split switches have not been generally substituted for the old stub ones, except where new heavy rails have been put in recently.

The roadbed was found in fair condition, not having many low or narrow banks. The percentage of bridging to the length of line is small, nearly all of the many trestle and pile bridges put in on construction having been filled wherever found practicable.

The natural soil being largely of a sandy or gravelly nature has not needed the addition of ballast to make a fairly good roadbed. Wherever the soil is clayey, and throughout the snow belt, the ballasting has been well done and is well kept up, gravel being the material used in such cases Along the Humboldt Valley very little ballasting has been done, owing to the long haul, and, as a consequence, in this dry, hot climate, in the summer and fall, the alkali dust is at times quite bad. There has been found near Promontory Station what appears to have been at one time the beach of a large lake. This deposited a bed of a superior quality of water-washed gravel of very even size and entirely free from extraneous material. During last fall 45.5 miles of track from Ogden west was ballasted with this gravel, which at a little distance has the appearance of broken stone.

The ties now in track are mostly 6 by 8 inches, 8 feet long, but during the past year the standard size has been increased to 7 by 8 inches, and all renewals which have been made since then have been with ties of this size. From Ogden to Blue Canyon the older ties are mostly redwood; those put in during recent years are cedar, pine, and red spruce. From Blue Canyon to San Jose the ties are all redwood. The general average on the whole line is about 3,000 ties per mile. The average life of redwood ties between Ogden and the boundary line between Nevada and California is ten years; between the boundary line and Sacramento eight years, and between Sacramento and San Jose ten years. These are the approximate ages of the older ties; but there are a few places where the life of the ties is much greater, as, for instance, on the desert near Hot Springs, where from the preservative effect of salts in the soil, some of the old pine ties put in during the construction of the road, in 1869, are still in service. Unfortunately, this condition only exists at a single point on the road, and is the exception that does not influence the general average life of the ties.

During the past twelve months there has been used in renewal work between Ogden and the west line of Nevada 155,388 ties; between the State line and Sacramento 86,594, and between Sacramento and San Jose 53,932 ties.

The weight of the steel rail runs all the way from 50 to 76 pounds per yard. The 76-pound rail is the newest, having all been laid within the last five years; the 62-pound is the next in age, having been laid at various times during the past ten years, and the 50-pound and 60-pound are the oldest, having been in service from eight to sixteen years. The location and length of the different weights are as follows:

	Miles of track.	Miles of track laid with steel.			
		76 pounds.	62 pounds.	60 pounds.	50 pounds.
Ogden to Truckee	624.04	35.40	31.27	522.89	34.48
Truckee to Sacramento	118.57	111.19	.....	7.38	.....
Sacramento to San Jose	127.01	.....	11.09	.....	115.92
Total	869.62	146.59	42.36	530.27	150.40

The total length of all side tracks and spurs on the aided line amounts to 179.76 miles.

There are seventeen tunnels, the longest being Tunnel No. 6, at the summit of the Sierra Nevada Mountains, 1,652 feet; the shortest being Tunnel No. 4, between Cisco and Tamarack, 85 feet. The total length of these tunnels is 7,954 feet. One of them is on the Western Division, between Altamont and Midway, being 1,169 feet in length and timbered throughout. All the remaining tunnels are between Sacramento and Verdi; 2,081 feet being timbered, 693 feet lined with masonry, and the remainder, 4,011 feet, is through solid rock, which does not require lining.

Of late years renewal of the most important bridges has been made with iron or steel. There are now on the aided portion of the line nine bridges of this class, with an aggregate length of 1,951.8 feet. There are fifteen wooden Howe truss bridges, with an aggregate length of 4,506 feet; thirteen straining beam bridges (64 and 80-foot spans), with an aggregate length of 3,800 feet, and 433 openings crossed with trestlework, with an aggregate length of 26,685 feet. All of these wooden bridges are in good condition. The plans for this year's renewals consist in the substitution of one 80-foot iron bridge for an 84-foot Howe truss bridge, in Summit Valley, and the rebuilding in wood (all to specifications suited to recent increase in weight of rolling stock) of two bridges between Niles and Livermore, with an aggregate length of 764 feet.

The very heavy fall of snow on each side of the Sierras has made necessary the construction and maintenance of a large amount of snowsheds, which completely cover the track, and in many places extend for a long distance up the sides of the mountains. The total length of track shedded is 32.25 miles. Of this 1.04 is what is known as "gallery shed," located on the eastern slope of the mountains close to the summit, and built extra heavy, being intended to protect the track from the tremendous avalanches which sweep down from the mountains above. The remainder of the shed varies in style at different points to suit the peculiar conditions existing at each point. During the present summer, in addition to the general repair work on the sheds, there will be two miles entirely rebuilt.

As a means of protection against destruction by fire, there has been established through the sheds a system of fire patrol with a complete electric fire-alarm system with signal boxes at convenient points, through which an alarm of fire can be turned in. Fire trains, consisting of an engine and two large water-tank cars, are kept under steam at all times at Truckee, Summit and Blue Canyon, and at each of these stations is a receiving instrument which receives the fire alarm and indicates the number of the box from which it is sent. In addition to this, they have during the summer time two men stationed on a high point known as Red Mountain, opposite Cisco. From this point nearly all of the snowsheds on the westerly side of the summit can be seen, and where the sheds themselves are out of sight behind points of hills, their location is well known to the watchmen, and any unusual smoke or signs of fire are immediately reported by telephone, which connects them with the station at Cisco. As a means of still further protection, they have an American district telegraph system, with boxes distributed through the sheds, by means of which the track-walkers and watchmen can communicate with the central office at Blue Canyon. The boxes are so arranged that a signal can be sent in indicating fire, snow-slide, etc., also a signal to indicate the direction in which the track-walkers are going over their beats—whether east or west. By requiring them to turn in this latter signal every time they pass a box, their movements are reported and their whereabouts known at any moment.

The snow-fall on the mountains, of course, varies greatly with different seasons. The heaviest fall is at the summit, and observations taken since 1870 indicate a range of from 161.25 inches in the season of 1874–'75 to 751 inches in the season of 1889–'90. The western limit of excessive snow fall is at Alta, the fall there ranging from 6 inches in 1884–'85 to 440 inches in 1889–'90. The snow fall of 1889–'90 was also heavy at the lower altitudes of the mountains; at Cisco it was 755.50 inches, being slightly in excess of that at the summit.

The snow fall as given above represents the total of the daily measurements and, of course, does not indicate the amount lying on the ground at any one time. It is difficult to get any reliable information as to what this latter amount may be, the drifting of the snow by the wind rendering it impossible to get any figure representing an average depth of snow on a level. The nearest that can be obtained, perhaps, is the depth of snow in Summit Valley, which often exceeds 20 feet. On the eastern side the heavy snow fall does not extend below Truckee Station.

In addition to a large number of snowplows attached to the front end of locomotives, the equipment of special tools for keeping the track free from snow includes twelve heavy snowplows, three being of the rotary type, and fourteen heavy ice flanger cars.

Between Ogden and Reno, through Nevada and Utah, very little of a favorable nature can be said regarding the country. In the neighborhood of Lovelocks, the

water of the Humboldt River is used for irrigating, and some alfalfa hay is produced in connection with the stock-raising industry. The remainder of the State of Nevada and of Utah near the line of the road produces very little traffic. The mines, which formerly made the State famous, have nearly all been worked out and abandoned. The Nevada Central Railroad, from Battle Mountain to Austin, is running one train and making three round trips per week, and the Eureka and Palisade railroad, running to Eureka, which was formerly a thriving mining camp, has lately entirely discontinued running trains.

Ogden is the eastern terminus of the road, where connection is made with the Union Pacific, Rio Grande Western, Utah Northern and Utah Central railroads at the Ogden Union Railway and Depot Company's station, and is also the terminus of the last four mentioned roads. The company has a car repair shop here, consisting of some dozen buildings, and contracts have been let for the construction of a twenty-stall brick roundhouse, a large machine and backsmith shop and storeroom and office building, of considerable importance, which will be completed this year. These shops are to be equipped with the best modern machinery, and all repairs to cars and engines running between Salt Lake and Carlin will be made at this point. The city has about 130 stores, 5 banks, 3 first and 4 second-class hotels, 3 livery stables, 1 creamery, 2 large flouring mills, 1 canning factory, a county court-house and a public hall, a city and a railroad hospital, 1 artificial ice plant, a brewery and several lumber yards, a thorough system of waterworks, gas works, electric light plant, electric street cars and 7 miles of motor line to Hot Springs, a morning and an evening newspaper, an opera house, Territorial reform school, military academy, Sacred Heart Academy, 8 schools and 1 high school.

Corinne has 300 inhabitants. The yard consists of 1.13 miles of siding, a depot building, freight house, section house and tank, with water supply from Bear River. It has a good system of water works, a restaurant and a first-class hotel, opera house, public hall, bank, 2 churches, weekly newspaper, graded school, mercantile houses of the various branches, a flouring mill, etc.

Promontory has 1.70 miles of siding, an eating house, roundhouse, turntable, and coal bulkhead, with a schoolhouse and a store and hotel combined. It is the headquarters of the Promontory Stock Ranch Company, who own each odd section 20 miles each way from the track for a distance of 40 miles. Rozel has a half mile of siding, a section house and water tank, supplied from springs through 7 miles of pipe. Kelton has 0.71 of a mile of siding, a freight depot, section house, small engine house, turntable, and water tank. It has 2 stores, a school house, and hotel. Ombey and Matlin each have less than a half mile of siding, with section and tool houses and turntables, and the latter has a telegraph office.

Terrace, Utah, 124.11 miles from Ogden, has 430 inhabitants, 2 stores, 1 hotel, and a schoolhouse and city hall combined It is the freight terminal of the Salt Lake division, and has 3.67 miles of siding, a 15-stall roundhouse, machine shop, and blacksmith shop, and other buildings necessary in employing 15 men upon repairs of cars and 130 upon repairs of locomotives, etc. The whole water supply is obtainable from springs and is piped some 8 miles.

Tecoma, Nev., has 2 hotels, 1 store, and a telegraph office. Montello has turntable and water tank. The water supply is piped over 5 miles from springs. Toano has 1.7 mile siding, a hotel and store, freight depot, coal bulkhead, and water tank supplied from well 1 mile west. There is a telegraph office at Penelon.

Wells has 190 inhabitants, 1 hotel, 3 stores, and 1 school building. The yard consists of 3.30 miles of siding, combination depot, 15-stall roundhouse, iron turntable, coal shed, and water tank supplied from stream 3 miles distant. Wells divides the trade of Cherry Creek and Eli with Toano. Deeth has 1 hotel and 1 store, a small freight depot, pump house, and water tank, and 0.68 of a mile of siding. Halleck has a hotel and small store.

Elko has a population of 600 and is the county seat of Elko County. It has a daily newspaper, 2 hotels, 5 stores, a lumber yard, schoolhouse, and hospital. The yard consists of 1.06 miles of siding, 2 freight sheds, pumphouse, and water tank. There are quite a number of small settlements tributary to Elko, the most important being Tuscarora, 45 miles north. Carlin, 298.8 miles from Ogden, has 600 inhabitants, 1 hotel, 3 stores, 1 opera house, 1 schoolhouse, and a creditable railroad library. It is the junction of the Truckee and Salt Lake divisions, and has a 16-stall roundhouse, and quite a plant for repair shops, but very little is being done in them at present. The water supply is piped over a mile.

Palisade, with a population of 140, is 308 miles from Ogden, and has 2 hotels, 2 stores and a school building. It is the junction of the narrow-gauge road to Eureka, 90 miles south, whence considerable ore is shipped. The yard consists of 0.92 of a mile of siding, freight house, and water tank, which is supplied from springs a half mile distant. Beowawe has a hotel and store combined, 0.36 of a mile of siding, a freight depot, section house, water tank, and pump house.

Battle Mountain has 560 inhabitants, 2 hotels, 4 stores, church, school, and hall

buildings, and a weekly newspaper. It is the junction of the narrow-gauge road to Austin, 96 miles south. There is a combination depot, 1.14 miles of siding and a water tank supplied by piping from springs 3 miles away. Golconda has 2 hotels, 2 stores, a school building, and warm springs quite celebrated for the cure of rheumatism. It has 0.38 of a mile of siding, freight depot, and a water tank supplied by piping from springs 5 miles distant.

Winnemucca, 419 miles from Ogden, has 1,040 inhabitants, a bank, 4 hotels, 3 halls, 11 stores, 4 livery stables, 1 daily newspaper, and a $20,000 schoolhouse. The yard consists of 3.30 miles of siding, passenger depot, freight house, 10-stall round house, turntable, car repairer's house and water tank supplied from springs 4 miles away. Mill City, on the Humboldt River, has half-mile of siding, 1 hotel, 1 schoolhouse, store, quartz mill and freight depot.

Humboldt, 459 miles from Ogden, has an abundant supply of pure spring water, piped 3½ miles from springs, that makes it a veritable oasis in a desert. It has an eating house, freight house, 2 water tanks, and an ice house. Rye Patch has a hotel, schoolhouse, and freight depot.

Lovelock, 492 miles from Ogden, has 630 inhabitants, and is on the celebrated Big Meadows of the Humboldt Valley. It has 3 hotels, 3 stores, a church and schoolhouse, stock yards, and a very large warehouse. The yard consists of 1 mile of siding, combination depot, turntable and water tank.

Wadsworth, on the Truckee River, 555 miles from Ogden, has 540 inhabitants, and is the headquarters of the Truckee division. It has 3 stores, 2 first-class hotels, lumber yard, livery stable, schoolhouse, church, 2 public halls, a railroad library and one semiweekly newspaper. There is a 20-stall round house and a machine shop plant employing 120 men on repairs of cars, locomotives, etc., in which everything is quite complete.

Reno, 589 miles from Ogden, has 3,670 inhabitants, and is the most important town on the line of the railroad between Ogden and Sacramento. It is located on the Truckee River, and has 7 hotels, 2 banks, 25 stores, flouring mill, planing mill, reduction works, several lumber yards, electric light, and waterworks plants, 1 weekly and 2 daily newspapers, 1 private and 3 public schools, a State University and a theater. It is the terminus of two railroads, the Virginia and Truckee Railroad, running to Carson City, and Virginia, with a narrow-gauge branch through Southwestern Nevada to Owens Lake, Cal.; and the Nevada, California and Oregon Railroad, a narrow-gauge railroad running north from Reno, a distance of 80 miles. The country tributary to Reno is devoted almost exclusively to stock-raising and pasturage. In the immediate neighborhood there are several small valleys in which some grain is raised. The yard consists of 2.53 miles of siding, a large passenger depot, freight house, turntable, 40-ton scales, car repair shop, pump house and tank which is supplied from city waterworks.

Verdi has 300 inhabitants, 2 hotels, 2 stores, 0.93 of a mile of siding, a depot, freight house, turntable, and telegraph office. Floriston has a population of 175, a turntable, and a telegraph office. Boca has 400 inhabitants, 1 hotel, 1 store, sawmills, and ice houses. The yard consists of 1.22 mile of siding, a combination depot and water tank supplied by mill company.

Truckee, 624 miles from Ogden, has a population of 1,350, and is a division terminus. It is on Truckee River and has fine hotels and 13 business houses. Ice-packing and lumbering constitute the business. There are quite a number of summer resorts in the neighborhood, particularly at Lake Tahoe, and Truckee River fishing furnishes an inducement to tourist travel. The car-repair shops employ about 30 men upon repairs to cars, locomotives, etc. The yard consists of 6.52 miles of siding, a 22-stall roundhouse, 2 turntables, 2 water columns, a water tank, and freight house. The water is supplied by gravity from springs belonging to the company.

The region between Truckee and Colfax may be termed the higher Sierra. It produces but little to transport. In former years this section of the line furnished a considerable tonnage of lumber and wood, but the timber available for this product has been nearly all exhausted. There are a number of ice houses at Floriston, Cuba, Boca, and Prosser Creek. Much of the natural ice consumed in California comes from this region. At Roseville, the descent of the Sierra Nevada Mountains ends. What is known as the foothill region, beginning at Colfax station, is being slowly settled up, and such portion as can be cultivated is utilized for the production of grapes and deciduous fruits.

Emigrant Gap has a population of 100, a one-stall engine house, turntable, freight house, and telegraph office. Blue Canyon has about the same. Towles has 300 inhabitants, a pulp mill, and a logging road some 34 miles in length. Dutch Flat, once of considerable importance in the days of hydraulic mining, has now a population of some 500 and does a little shipping to a number of small mines. Gold Run has a population of 150, a depot, turntable, water tank, and 2 water columns. The water supply is taken from the pipe line running to Colfax.

Colfax, 689 miles from Ogden, has 600 inhabitants, 2 hotels, and several business

houses, and is the junction of a narrow-gauge road running north. The yard consists of a mile of siding, passenger depot, freight house, car repairer's house, small engine house, turntable, pump house, and water tank. The water supply comes from a ditch near Dutch Flat, through a pipe line 13 miles long.

Auburn, 707 miles from Ogden, has 2,000 inhabitants, several hotels, 2 banks, and 20 business houses, and is quite a summer resort. The yard consists of 0.85 of a mile of siding, a depot, freight house, and two water tanks supplied from the South Yuba Canal Company's ditch.

Newcastle, Penryn, and Loomis are small places of a few hundred population, in the center of quite an extensive fruit-growing district. They have a few business houses and several railroad buildings each, and Penryn has several granite quarries.

Rocklin has about 1,000 inhabitants, chiefly employed in the granite quarries, 2 hotels, and 7 stores. The yard, of 16 acres, consists of 5.35 miles of siding, passenger depot, freight house, an 18-stall roundhouse, car-repair shops, employing some 25 men, turntable, and 2 water tanks.

Roseville Junction, 725 miles from Ogden, has 400 inhabitants, 3 hotels, and 5 business houses. At this station junction is made with the Central Pacific nonaided line, running north 296½ miles to the State line, and there connecting with the Oregon and California Railroad to Portland, Oregon.

Sacramento is the capital of the State and the location of the principal shops of the company. These shops are all very complete, there being facilities for the manufacture of nearly all kinds of railroad supplies, and comprise, besides the machine shops, a wheel foundry, and rolling mill. In addition to car and locomotive work, all fish and angle plates, bolts, nuts, and spikes, and other track material, such as switches, frogs, etc., are made to supply all of the company's requirements, and utilize at home all waste material from the scrap heap. The shop buildings are all of excellent construction, being either brick or corrugated iron. Many of them have been built within the last five or six years, and the older ones are in excellent condition. In the shops are employed 400 men in the car department, and 1,200 men in the machine department, on the construction of cars, locomotives, and all other road supplies. The station and shop grounds embrace an area of 162 acres, largely utilized by the company's buildings and tracks, of which there are some 150 of the former, too numerous to itemize, and 20.85 miles of the latter. The population of the city is some 30,000, and it has 3 daily newspapers, 5 solid banking institutions, 8 principal hotels, and a $3,000,000 State capitol. It has an extensive system of electric street railways, numerous flouring mills, extensive terra cotta works, a half dozen breweries, and many substantial manufacturing enterprises and fruit canneries. It is in the midst of a very fine agricultural country and being situated at the confluence of the Sacramento and American rivers, a large proportion of the grain, fruit and hops is brought from the district lying along these rivers by boat and then forwarded by rail.

Brighton is the junction point with the Sacramento Valley Railroad. Elk Grove has 300 inhabitants, 1 hotel, 3 business houses, a large winery, and several grain warehouses, combination depot, and half mile of siding. Galt, with a population of 900, is the junction of a branch line to Ione, 27 miles east, and has 2 hotels, 3 churches, 2 schools, passenger depot, turntable, 2 water tanks, and pump house. Quite extensive shipments of stock and grain are made from this point. Lodi has 1,500 inhabitants, 1 bank, 1 flour mill, 3 hotels, 2 newspapers, and 12 business houses, and is at the crossing of a narrow-gauge road running east to Valley Spring, 27 miles, and west 13 miles to Bracks. It has a mile of siding, a small depot, freight house, and small tank, and ships large quantities of fruit, grain, and vegetables.

Stockton, 792 miles from Ogden, is at the head of the Stockton Channel, and the junction of the branch line to Milton, a copper-mining district, and to Merced by a line traversing the eastern side of the San Joaquin Valley. It has 18,000 inhabitants, 5 well-established banks, 2 daily and 5 weekly newspapers, many elegant churches, and fine hotels. The numerous manufacturing enterprises had a total output in 1892 of $12,000,000, and gave employment to 1,600 men. The yard consists of 1.3 mile of siding, new brick passenger station, freight house, 3-stall roundhouse, turntable, water tank, and pump house. The tributary country produces mostly wheat, although immediately surrounding the town fruits and vines are highly cultivated and large quantities of wine are made.

Lathrop, 800 miles from Ogden, has 400 inhabitants, 2 churches, 1 school, 2 hotels, and 3 business houses, a small depot, freight house, and eating house, and is merely a railroad station where connection is made with the Central Pacific nonaided line, running south 146 miles through the San Joaquin Valley to Goshen. Up to a few years ago the portion of the San Joaquin Valley traversed by this line was devoted exclusively to the raising of grain and for pasturage. There has recently been a great change in the character of its productions. The stations along the road have been growing rapidly in population. Irrigation works have been con-

structed and the country is rapidly settling up and being set out to orchards and vineyards. This has been particularly marked at and near Fresno, which has within the last few years become particularly noted as being the commercial center of the largest raisin-producing section of California. In 1892 the total quantity of raisins raised in California was 57,162,000 pounds, practically all marketed in the United States. The imports from foreign countries to the United States in the same year were 23,250,809 pounds only. Besides raisins, it produces a large amount of other dried fruits, particularly prunes, and during the season ships large quantities of green fruit to eastern markets. The prosperity noted around Fresno is extending farther north, the cities of Merced and Modesto, in particular, being the centers of a rapidly increasing population and bidding fair in a few years to rival Fresno in the production and shipment of dried and green fruits and raisins

Tracy has 500 inhabitants, 3 churches, 1 school, and 5 general stores, and is the point of junction with the Southern Pacific Railroad, running from Oakland, via Port Costa and Martinez, to Armona. It has about 12 acres of station grounds, 1.72 mile of siding, coal bulkheads, but no station buildings. Shortly west of Tracy the line leaves the San Joaquin Valley and rapidly descends the Coast Range Mountains till reaching the summit at Altamount, a station with 75 people, small freight house, 1 store, and a school. From the summit the line descends the Livermore Valley to the town of Livermore, which has a population of about 2,500, 2 newspapers, 1 bank, 3 churches, 3 schools, 1 college, 1 brewery, 1 flour mill, planing mill, and gas and electric light works. The yard consists of 1.86 mile of siding, small roundhouse, turntable, and water tank.

Pleasanton, 841 miles from Ogden, has 1,000 inhabitants, 3 churches, 4 hotels, 3 schools, about a dozen business houses, 1.37 mile of siding, and a combination depot. From the lower end of Livermore Valley the line follows the canyon of Sunol Creek to the village of Sunol, with a population of 200, 1 church, 1 school, 3 hotels, and 3 stores, half mile of siding, and combination depot. From Sunol the line follows the canyon of Alameda Creek to Niles, the junction point of the non-aided line connecting the Central Pacific with Oakland. This is a town of 500 population, with 2 churches, 1 school, 3 hotels, and half dozen stores. The side tracks, depot, etc., belong to the Central Pacific nonaided line.

Irvington is a town of 500 inhabitants, with churches, hotels, and business houses, and one of the most extensive wineries in the State, and a new combination depot just completed. Warm Springs is a hamlet of 250 inhabitants, with a combination depot. Milpitas has a population of 350, 1 hotel, 1 store, and a small combination depot. It is the center of large dairying interests.

San Jose, 870 miles from Ogden, is the western terminus of the bonded line, and has a population of about 21,000 and including its immediate suburbs, some 35,000. There are 3 newspapers, 6 banks with large capital, churches of all denominations, and all fraternal societies have flourishing organizations. The hotels are large and numerous, the principal streets well-paved and lighted by electricity. Flour mills, lumber milling, shops, breweries, and other manufacturing enterprises, including canneries, and fruit-packing houses, which employ a large number of men. The country around San Jose and throughout the Santa Clara Valley to Niles is remarkably rich and fertile, its principal productions being deciduous fruits and cereals.

CENTRAL BRANCH UNION PACIFIC RAILROAD.

The bonded line extends from Atchison, Kans., to Waterville, Kans., a distance of 100 miles, and though owned by the Union Pacific is operated by the Missouri Pacific Railway Company for the owners.

Inspection was made early in June. This is in the worst shape of any piece of railroad bonded to the Government, and its present condition has little to commend. The general appearance of everything connected with the road is hardly in keeping with the country traversed, or the ordinary condition of other roads in this section. It was all laid with 52-pound per yard steel nine years ago, with the exception of about 2 miles in the neighborhood of Effingham, which was laid with 56-pound steel some five years ago. In both alignment and surface the track was in rather poor condition, and the oak ties showed marked evidence of age, having been in the track upon an average of about seven years. There were 24.8 miles of track ballasted with broken stone, 33.5 with gravel, and 10.5 with cinders, and the balance surfaced with roadbed material.

The only new improvement made during the past year consisted of the laying of 1 mile of new steel in the yard at Atchison. All the buildings are over eight years old. The shops at Atchison are about thirty years old, having been constructed about the time the road was built. The ordinary combination depots found at most of the stations were quite old and had every appearance of being the original buildings erected on construction.

The character of the principal bridges and the dates of their erection are as follows: Over White Clay Creek, one 54-foot double-track iron-plate girder, built in 1881, and one 58-foot double-track deck Howe truss, built in 1882; over Camp Creek, one 43-foot truss girder, built in 1885; over the three c ossings of the Vermilion River there are one 82-foot Howe truss, built in 1883, one 100-foot Howe truss, built in 18-3, and one 140-foot combination truss, built in 1890; over Clear Fork there is one 104-foot Howe truss, built in 1885, and over Big Blue River one 140-foot combination truss, built in 1890.

The details of the main characteristics at the different stations along the line are as follows: Atchison, the eastern terminus of the road, has 14,000 inhabitants, 5 banks, with capital aggregating $500,000, 4 newspapers, 7 schools, and 18 churches. Its industries are 5 flouring mills, 2 foundries, 2 machine shops, and 4 candy factories. The yard consists of 6.6 miles of siding. The principal buildings, besides the Union Passenger Station, are a one and a two story brick freight house and office building 40 by 316 feet, with east wing two stories 40 by 96 feet, and west wing two stories 40 by 44 feet. At the shops, 1.2 miles from the Union Depot, are a 13-stall engine house, 6 stalls of stone, 90 by 60 by 168 feet, and 7 stalls of brick 97 by 66 by 168 feet, with fire wall between, a wooden turntable 54 feet in diameter, stone machine shop 50 by 110 feet, frame blacksmith shop 35 by 90 feet, and stock yards 248 by 432 feet, with 5 chutes. In addition to the above there are numerous small buildings used for paint, oil, sand, and repair shops, etc. In the shops are employed about 150 men upon general repairs.

Parnell, 6.5 miles from Atchison, has 0.28 of a mile of siding platform only, and stock yards. Farmington, 12.6 miles from Atchison, has 25 inhabitants, 1 school, 0.34 of a mile of siding, combination depot, section house, and stock yard. Monrovia, 14.7 miles from Atchison, has 100 inhabitants, 1 school, 0.18 of a mile of siding, a platform, and stock yard. Effingham, 17.5 miles from Atchison, has 600 inhabitants, 1 bank of $200,000 capital, 1 newspaper, 4 churches, 1 high school, 0.48 of a mile of siding, combination depot, section house, and stock yards. An elevator, a creamery, and a flour mill are the industries. Muscotah, 24.7 miles from Atchison, has 650 inhabitants, 1 bank of $5,000 capital, 1 school, 3 churches, 0.86 of a mile of siding, stone combination depot, water tank, pump house, coal shed, and stock yard. A broom factory and an elevator are the industries. Whiting, 31 miles from Atchison, has 500 inhabitants, 1 bank of $10,000 capital, 4 churches, 1 school, 0.83 of a mile of siding, combination depot, and stock yards. The only industry is a creamery with a capacity of 1,000 pounds of butter per week. Netawaka, 36.6 miles from Atchison, has 350 inhabitants, 1 bank with a capital of $10,000, 3 churches, 1 school, 0.7 of a mile of siding, a combination depot, a section house, and stock yards.

Wetmore, 42.2 miles from Atchison, has 650 inhabitants, 1 bank of $2,000 capital, 1 school, 3 churches, 0.7 of a mile of siding, a combination depot, water tank, pump and coal house, and stock yards. The only industry is a general canning factory. Goffs, 49.2 miles from Atchison, has 300 inhabitants, 1 bank, 1 school, 2 churches, 0.56 of a mile of siding, combination depot, and stock yards. The only industry is a flour mill. Corning, 55.2 miles from Atchison, has 350 inhabitants, 1 bank of $25,000 capital, 1 school, 3 churches, 1.1 miles siding, combination depot, turntable, 1½-story frame section house 14 by 18, with addition; coal chute, coal-storage bin, and stock-yards. The industries are the raising of fruit and vegetables. Centralia, 62.4 miles from Atchison, has 800 inhabitants, 2 banks with $200,000 capital, 1 school, 3 churches, 0.72 of a mile of siding, combination depot, section house, water tank supplied by windmill and horse power, and stock yards. The industries are a flour mill, elevator, and harrow factory. Vermilion, 69.9 miles from Atchison, has 400 inhabitants, 1 bank of $20,000 capital, 4 churches, and 1 school, 0.60 of a mile of siding, depot, section house, and stock yards. Vlerts, 73.5 miles from Atchison, has 85 inhabitants, 1 church, and 1 school. The yard consists of 0.36 of a mile of siding and a platform. The industries are 2 elevators.

Frankfort, 78.4 miles from Atchison, has 650 inhabitants, 3 banks with $25,000 capital, 2 churches, and 1 school. The yard consists of 0.60 of a mile of siding, combination depot, water tank, pump house, section house, and stock yards. Barretts, 81.1 miles from Atchison, has 125 inhabitants, 2 churches, 0.18 of a mile of siding, combination depot, and stock yards. Bigelow, 84.9 miles from Atchison, has 350 inhabitants, 1 church, 1 school, 1.9 miles of siding, combination depot, stone section house, and stock yards. The industries are 2 stone quarries. Irving, 91.2 miles from Atchison, has 300 inhabitants, 1 bank, 1 church, 1 school, 0.83 of a mile of siding, combination depot, section house, and stock yards. Blue Rapids, 95.2 miles from Atchison, has 800 inhabitants, 2 banks with $30,000 capital, 7 churches, and 1 school. The yard consists of 1.6 miles of siding, combination depot, and stock yards. The industries are 1 flour mill and 1 plaster mill. Waterville, the western terminal of the bonded line, 100 miles from Atchison, has 600 inhabitants, 2 banks with $100,000 capital, 3 churches, 1 school, 1.1 miles of siding, combination depot and stock yards. Flour mill is the only industry.

Agriculture and stock-raising comprise the principal industries along the line, and are engaged in very extensively. The soil and climatic conditions are almost identical with those of the eastern portions of the Union Pacific.

SIOUX CITY AND PACIFIC RAILROAD.

The bonded line extends from Sioux City to Fremont, a distance of 101.77 miles, and is operated by the Chicago and Northwestern Railway Company. It was inspected early in May. At that time the track had not been entirely lifted out of the condition in which it was left when the frost went out of the ground, and it was not in the best of shape either as to line or surface. The roadbed presented a fair appearance and the ties appeared in average condition.

The line lies largely within the secondary bottom lands of the Missouri River, and throughout its whole length is in the midst of a very fine agricultural country, whose products are very seldom interfered with by drought or excessive rains. Stock-raising is carried on quite extensively, and all the better grades of blooded horses, cattle, and sheep are bred. The climatic characteristics are about the same as those given for the eastern belt of the Union Pacific.

The bridge across the Missouri River, at Blair, is the property of an independent corporation, in which the Sioux City and Pacific Railroad Company has no interest, either directly or indirectly. It uses the bridge for its traffic on the same terms as other railway companies.

There are 96.90 miles of 60-pound per yard steel in the track, which has been laid upon an average of nine years. The balance of the track, 4.87 miles, still has in service the old 50-pound iron. All of the side tracks, 18.80 miles, are also laid with the old 50-pound iron.

Between Sloan and California Junction there are 46 miles of the track ballasted with gravel, and between California Junction and Blair, 4 miles, with cinders, the other 51.77 miles of the road being surfaced with material from the roadbed.

The bridging consists of two 80-foot and two 160-foot spans of combination truss and one span of a 46-foot wooden truss. The balance are pile bridges. Some cast-iron pipe of 24 inches and 36 inches in diameter is in use. The ties are oak and cedar and have been laid all the way from one to fifteen years.

The depots at Onawa and Arlington have been built during the past year. The passenger depot and freight depot at Sioux City, the depots at Blencoe and Blair, and the water-tanks at Onawa and Blair have been built or renewed in recent years, but nearly all the other buildings were erected in 1869. They are wooden, except where otherwise noted in the following description. Those built lately and in recent years are in good or fair condition, and the older buildings in fair or poor condition according to age.

Sioux City, the initial point of the road, is the county seat of Woodbury County, Iowa, and the second largest city in the State. It has 37,800 inhabitants, 17 newspapers, 17 banks, 34 churches, opera houses, etc. The yard consists of 5.74 miles of siding, a brick passenger station, 34 by 136 feet; a brick freight depot, 40 by 254 feet; two-story eating house, 24 by 100 feet; a water tank, 20 feet in diameter; four-stall brick engine-house, 61 by 95 feet; coal shed, 21 by 102 feet, and section-house, 22 by 26 feet. The supply of water at the tank is good and the quality fair. The industries comprise all general business, both wholesale and retail. There are several manufacturing establishments and large stock yards and 3 packing houses.

Sergeant Bluffs, 7 miles from Sioux City, has 425 inhabitants, 2 churches, 2 brick-yards, which make a special grade of brick for street paving, as well as the best quality of common and pressed brick, and 1 pottery. There is 1 mile of siding, a depot, and a section house. Salix, 15 miles from Sioux City, has 450 inhabitants, 1 bank, 1 newspaper, 2 churches. The yard consists of 0.25 of a mile of siding, a depot, and a section house. Sloan, 21 miles from Sioux City, has 450 inhabitants, 2 banks, and 1 newspaper. There are 0.83 of a mile of siding, a depot, section house, and a water tank, which furnishes a medium supply of fair water. Whiting, 29 miles from Sioux City, has 440 inhabitants, 1 bank, 1 newspaper, and 4 churches. There is a general business done in grain, hay, and stock shipping. The yard consists of 0.65 of a mile of siding, a depot, and a section house.

Onawa, 37 miles from Sioux City, has 1,360 inhabitants, and is the county seat of Monona County. There are 2 banks, 3 newspapers, 3 hotels, and 5 churches. The yard has 1.04 miles siding, 1 new depot, a section house, and a coal shed (both old), and a water tank built last year. The supply of water at the tank is good and the quality fair. Blencoe, 44 miles from Sioux City, has 250 inhabitants, 1 bank, 1 hotel, and 2 churches. In the yard there is 0.31 of a mile of siding, a depot built in 1885, and a section house. River Sioux, 53 miles from Sioux City, has 400 inhabitants, 1 newspaper and 1 church, a lumber yard, and a grain elevator. It has 0.92 of a mile of siding, a depot, and a section house, both built in 1875. Mondamin, 59 miles from Sioux City, has 260 inhabitants, 1 bank, and 2 churches. There is 0.30 of a mile of

siding, a depot, section house, and a water tank. Modale, 65 miles from Sioux City, has 290 inhabitants, 1 newspaper, 1 bank, 3 churches, and 3 general stores. It has 0.81 of a mile of siding, a depot, and a section house. California Junction, 70 miles from Sioux City, has 150 inhabitants, and 2.18 miles of siding, but no station building.

Blair, Nebr., 77 miles from Sioux City, has 2,070 inhabitants, and is the county seat of Washington County, Nebr. It has several manufactories, a "Keeley Cure," and a "Bedal Cure" institute, 4 hotels, 3 newspapers, 2 banks, and 11 churches. The yard consists of 2.62 miles of siding, a passenger depot, built in 1883 jointly with the Chicago, St. Paul, Minneapolis and Omaha Railroad, a freight depot, 2 water tanks, and section house. The supply of water at the tank is fair, and the quality medium. Kennard, 84 miles from Sioux City, has 310 inhabitants, a hotel, and 3 churches. It has 0.55 of a mile of siding, a depot, and a section house, both built in 1869. Arlington, 93 miles from Sioux City, has 410 inhabitants, 2 banks, a newspaper, a flouring mill, 2 hotels, and 3 churches. The yard consists of 0.39 of a mile of siding, a depot built in 1893, and a section house, in fair condition, built in 1869. Fremont, 101.8 miles from Sioux City, has 6,750 inhabitants, 4 national banks, 7 newspapers, and 10 churches. The industries comprise a foundry, machine shop, brewery, packing house, bottling works, planing mill, flouring mill, cornice works, fence works, and wholesale grocery, hardware, and drygoods houses. It is the county seat of Dodge County. It has 0.46 of a mile of siding, a freight house, and a water tank, both built in 1869. The supply and quality or water at tank is fair.

CONCLUSION.

The inspection of the bonded roads was made at a time of year when the least favorable results would be looked for. Still, with very few exceptions, the general condition of everything connected with them was found in better shape than could be expected when the disadvantages they have labored under are taken into consideration. The roads have always been heavily handicapped by the immense debts contracted in "war times." But under all the discouraging circumstances attending their operations there has been, undoubtedly, the same careful supervision and care in maintenance that might have been expected in properties comparatively lightly involved, and from which could be obtained in net results a far better showing with the same outlay of energy. The Union Pacific, in addition to these discouragements, had the misfortune to have changed its management during the past ten years about as often as the grangers changed their governors and with about the same results. It is to be hoped the present management will remain undisturbed long enough to develop the policy so well begun.

I take pleasure in acknowledging the courtesy of officials of these roads in facilitating inspection and furnishing information.

Respectfully,

RICHD. RELF,
Railroad Engineer.

Hon. WADE HAMPTON,
Commissioner of Railroads.

APPENDIX B

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Completion of road, time extended two years. Section 2.

Joint resolution, July 1, 1868.

Completion of road, time extended to July 4, 1879. Section 1.

Act of July 2, 1864.

Damages, for lands taken, to be determined by commission. Section 7.
Depots, turnouts, station houses, etc., company authorized to take necessary lands. Section 7.
Directors, thirteen shall be elected by stockholders; shall receive from commissioners all properties. Section 1.
Directors, shall elect officers. Section 14.
Directors, terms of office; empowered to make by-laws, rules, and regulations; to fill vacancies in board; to appoint engineers, agents, etc.; to require payment of subscriptions to capital stock, and prescribe terms of redemption of forfeited stock. Section 16.

Joint resolution, May 7, 1866.

Extension of time for completion of road, two years. (*See* Joint resolution, July 1, 1868.) Section 2.

Act of July 2, 1864.

Franchises (other), company authorized to accept. Section 17.
First-class railroad, shall be constructed. Section 5.
Forfeited stock, may be redeemed on terms prescribed by directors. Section 16.

Joint resolution, March 1, 1869.

First-mortgage bonds (*see* "Bonds, first-mortgage").

Act of July 2, 1864.

Grant of land (*see* "Land grant").
Grants, made subject to certain conditions. Section 8.
Grants (other), company authorized to accept. Section 17.
Gauge, shall be uniform. Section 5.
Government lands, not to be sold for less than $2.50 per acre. Section 6.
Incorporation of company. Section 1.
Indian titles, shall be extinguished by the United States. Section 2.
Land grant, 40 sections per mile in Territories, and 20 sections in States. Section 3.
Land grant, shall be deducted if route is upon line of any other aided road; road having previous grant may assign. Section 3.
Lands in lieu of those reserved. Section 3.
Land limits. Section 3.
Lands in Minnesota, proviso regarding. Section 4.
Lands to be surveyed as fast as construction of road may require. Section 6.
Lands (Government) not to be sold for less than $2.50 per acre. Section 6.
Lands necessary for construction of road, company authorized to take; 200 feet on each side; damages to be determined by commission. Section 7.
Lands unoccupied, or when held by persons subject to legal disability; proceedings. Section 7.
Line of road. Section 1.

Joint resolution, April 10, 1869.

Lands, additional, for branch line, not entitled to. Section 1.

Resolution, May 31, 1870.

Lands, indemnity; limits, 60 miles on each side of road. Section 1.
Lands unsold and not mortgaged; subject to settlement at not over $2.50 per acre, five years after completion of road. Section 1.

Act of July 2, 1864.

Materials for construction, may be taken from adjacent lands. Section 2.
Military road, shall be. Section 11.
"Mineral" lands not granted; agricultural lands may be selected in lieu of. Section 3.
"Mineral," does not include iron or coal. Section 3.
Minnesota lands, proviso. Section 4.
Mortgage, to be filed and recorded in office of Secretary of Interior. Section 1.
Officers, election of, by directors. Section 14.
Officers, terms of. Section 15.
Post route, road shall be. Section 11.

Joint resolution, March 1, 1869.

"Puget Sound," meaning of term. Section 1.

Act of July 2, 1864.

Rails to be of American iron. Section 5.
Report (*see* "Annual report").
Right of way; 200 feet in width on each side of road; exempt from taxation. Section 2.
Road having previous grant may assign. Section 3.
Road previously built, proviso. Section 4.
Road to be constructed as a first-class railroad. Section 5.
Road to be completed by July 4, 1876 (*see* Joint resolution, May 7, 1866, and joint resolution, July 1, 1868); time extended. Section 8.
Road, Congress may insure completion of. Section 9.
Route, if upon line of any other aided road, former grant shall be deducted. Section 3.

Joint resolution May 7, 1866.

Road, time of completion extended two years. Section 2.

Joint resolution, July 1, 1868.

Road, time for completion extended to July 4, 1879. Section 1.

Act of July 2, 1864.

State legislatures; consent of to be obtained. Section 18.
Stock (*see* "Capital stock").
Stockholders; annual meetings; to elect thirteen directors. Section 1.
Subscriptions to capital stock; opening of books; first meeting of subscribers. Section 1.
Subscriptions to capital stock; directors to require payment of. Section 16.
Subscriptions to capital stock; act to be void unless $2,000,000 are subscribed within two years. Section 19.
Survey of lands; as fast as construction of road may require. Section 6.
Transportation (United States); charges for. Section 5.
Transportation (United States); Congress may restrict charges. Section 11.
Telegraph line; charges for Government service. Section 5.
United States shall extinguish Indian titles. Section 2.
Unoccupied lands, proceedings in regard to; claims barred if not made within six years. Section 7.
Vacancies in board, directors empowered to fill. Section 15.

NEW ORLEANS, BATON ROUGE, AND VICKSBURG RAILROAD COMPANY.

Act of March 3, 1871.

Completion of road within five years. Section 22.
Connection with Texas and Pacific Railway. Section 22.
Land grant, to aid in construction, 20 sections per mile in State of Louisiana. Section 22.
Lands selected shall be withdrawn from market. Section 22.
Patents, issue of, for lands withdrawn from market. Section 22.
Right of way. Section 22.

OREGON SHORT LINE RAILWAY COMPANY.

Act of August 2, 1882.

Created a railroad corporation in Territories of Utah, Idaho, and Wyoming. Section 1.

OREGON AND CALIFORNIA RAILROAD COMPANY.

Act of April 10, 1869.

Assent of company to act may be filed within one year. Section 1.
Acquired rights not affected. Section 1.

Act of July 25, 1866.

"Company," what to include. Section 9.
Completion of road; company first completing its part may continue with the consent of the State. Section 1.
Completion of road, July 1, 1875. Section 6.
Commissioners, appointment of, to examine road; to report under oath. Section 4.
Construction, materials for, may be taken from adjacent lands. Section 3.
Discrimination, none to be made. Section 7.
Failure to comply with conditions, act to be void. Section 8.
Gauge to be same as Central Pacific Railroad. Section 6.
Grant of land (*see* Land grant).
Homestead laws, provision relating to settlers under. Section 2.
Land grant, 20 sections per mile, if sold or occupied; limits; to be withdrawn from sale when maps of surveys are filed; to be applied to building roads; sale of, and price; settlers under preëmption laws and homestead act. Section 2.
Land grant, condition of. Section 5.
Laws of respective States to govern companies. Section 9.
Line of road. Section 1.

Act of April 10, 1869.

Land grant, not more than one company entitled to. Section 1.
Lands, sale of, how and to whom. Section 1.

Act of July 25, 1866.

Mineral lands; not granted. Section 10.
"Mineral" not to include coal and iron. Section 10.
Operation of road as one continuous line. Section 7.
Patents, conditions of issue. Section 4.
Penalties, for neglect to keep road and telegraph line in repair. Section 8.
Preëmption laws, provision relating to settlers under. Section 2.
Public highway, railroad to be. Section 5.
Public lands. when road does not pass through, consent of States to be obtained by companies. Section 11.
Right of way granted. Section 3.
Road to be kept in repair; penalty for neglect. Section 8.
Road, when passing through States, consent of, to be obtained by companies. Section 11.

Act of April 10, 1869.

Rights acquired; not affected. Section 1.

Act of July 25, 1866.

States, consent of, to be obtained by companies where road and telegraph line do not pass through public lands. Section 11.
State laws to govern companies. Section 9.
Settlers under preëmption laws and homestead act. Section 2.
Transportation; rates shall be fair and reasonable. Section 5.
Transportation of property and troops of the United States shall be at cost of companies. Section 5.
Telegraph line; to be kept in repair; penalty for neglect. Section 8.
Telegraph line; when passing through States, consent of, to be obtained by companies. Section 11.

"PACIFIC RAILROAD ACTS."

Act of July 1, 1862.

Annual reports to be made by companies to the Secretary of the Treasury. Section 20. (Repealed, 20 Stat., 169.) *See* section 1, act of June 25, 1868, and Thurman act.
Assent of company to this act shall be filed in Department of Interior. Section 7.

Amendment of July 2, 1864.

Affidavit of Central Pacific Railroad Company to be filed in California. Section 6.
Appraisement of property (right of way). Section 3.
Appeal from assessment of damages or appraisement of property (right of way), bonds on, costs of, title after. Section 3.
Assessment of damages (right of way). Section 3.
Assessments on stockholders. Section 2.

Act of March 3, 1865.

Assignment by Central Pacific to Western Pacific Railroad Company to build a railroad and telegraph line between San Jose and Sacramento confirmed. Section 2.

Act of June 25, 1868.

Annual reports to be made to the Secretary of the Interior, when, what to contain. Section 1. (Repeal of section 20, act of 1862.)

Joint resolution, April 10, 1869.

Attorney-General authorized to institute necessary suits. Section 3.
Attorney-General to investigate whether charters of Union Pacific and Central Pacific Railroad companies have not been forfeited. Section 4.

Act of March 3, 1873.

Attorney-General shall bring suit in equity against the Union Pacific Railroad Company *et al.* for unpaid subscriptions to capital stock, etc. Section 4.

Act of June 22, 1874.

Attorney-General shall bring suit for 5 per cent of net earnings due and unpaid. Section 1.

Act of March 3, 1875.

Army, transportation of; no money shall be paid by the United States to any railroad company constructed by the aid of a grant of public land on condition that such railroad should be "a public highway;" company may sue in Court of Claims, provided claim is not barred by statute of limitations; either party shall have right of appeal to Supreme Court. Section 1.

Act of April 30, 1878.

Army, transportation of. Section 1.

Act of May 7, 1878 (Thurman act).

Attorney-General shall institute proceedings against the companies. Section 10.
Attorney-General shall enforce forfeitures. Section 11.

Act of June 19, 1878.

Auditor of railroad accounts:
Application of act. Section 6.
Companies to report. Section 4.
Date of effect, July 1, 1878. Section 7.
Duties of auditor. Section 3.
Organization of bureau. Section 2.
Penalty for neglect or refusal of companies to report. Section 5.

Act of March 3, 1879.

Accounts of Pacific railroads (Post-Office Department), settlement of. Section 1.

Act of March 3, 1881.

"Auditor of Railroad Accounts," title changed to Commissioner of Railroads, salary of. Section 1.

Act of June 30, 1882.

Army, payment to land-grant railroads for transportation of. Section 1.

Act of July 1, 1862.

Bond, commissioners' treasurer. Section 1.
Bonds, first-mortgage, when and how paid. Section 6.
Bonds, subsidy, issue of, as work proceeds; lien of, to be made subordinate. Section 5 (*see* sections 5, 8, 10, and 11, amendment of 1864).
Bonds, double, between the mountains and treble over the Rockies and Sierras. Section 11.
Bonds, deliverable on account of construction; reservation of 25 per cent. Section 17. (Repealed, section 7, act of 1864.)
Bond and interest account, 5 per cent of net earnings shall be applied in payment of. Section 6.
Books, for subscriptions to capital stock, to be opened in principal cities. Section 1 (*see* section 2, amendment of 1864).
Books and property, to be delivered to directors. Section 1.
By-laws, to be made by stockholders. Section 1.

Amendment of July 2, 1864.

Bridges, conditions of construction. Section 9.
Bonds, first-mortgage, to have priority of lien over those of the United States. Section 10 (*see* section 5, act of 1862, also, section 1, act of 1865).
Bonds, already issued by companies, provision for. Section 11.
Bonds, outstanding, affidavit of President and Secretary to be filed in the Department of the Interior. Section 11.
Bonds, subsidy, partial issue of, on uncompleted work. Section 8 (*see* section 11, act of 1862).
Bonds, restrictions upon issue of. Section 9.
Bonds, shall not be issued on account of any road prior to act of 1862. Section 11.
Bonds, shall not be issued to Leavenworth and Lawrence roads. Section 12.
Bonds, shall not be issued to Union Pacific Railroad Company, eastern division, for construction east of the Rocky Mountains until completion of said road from Omaha to the 100th meridian. Section 12 (*see* section 1, act of July 3, 1866).

Act of March 3, 1865.

Bonds, first-mortgage, Central Pacific, Western Pacific, Union Pacific, and Union Pacific, eastern division, may issue 100 miles in advance of completed line. Section 1 (*see* section 10, act of 1864).

Joint resolution, April 10, 1869.

Bonds (United States), President authorized to withhold sufficient to secure completion of road. Section 3.

Act of February 24, 1871.

Bonds authorized to be issued by the Union Pacific Company, for construction of bridge across the Missouri River at Omaha. Section 1.

Act of April 30, 1878.

Bonds (United States), interest on, proviso in deficiency appropriation. Section 1.

Act of May 7, 1878 (Thurman act).

Bonds, subsidy; amount of, loaned by United States:
Central Pacific Railroad Company, $25,885,125.
Western Pacific Railroad Company, $1,970,560.
Union Pacific Railroad Company, $27,236,512. (Preamble.)
Bonds, first-mortgage, same amounts as above, issued and disposed of by companies. *Ibid.*

Act of July 1, 1862.

Capital stock, amount and number of shares (*see* section 1, amendment of 1864), commissioners shall receive subscriptions to, directors may require payments of. Section 1.
"Company," meaning of term. Section 15.
Companies shall have power to make by-laws. Section 1.
Companies may unite in building road on equal terms. Sections 10 and 16 (*see* section 16, amendment of 1864).
Companies named in section 19 may arrange with telegraph companies now existing. (*See* section 15, amendment of 1864).
Commissioners' treasurer shall give bond. Section 1.
Commissioners first meeting to be held in Chicago. Section 1.
Commissioners, appointment and meetings of, shall receive subscriptions to capital stock, shall call meetings of stockholders, shall elect directors. Section 1 (*see* section 13, amendment of 1864).
Commissioners, shall examine road on completion of 40 miles. Section 4 (changed to 20, section 6, amendment of 1864).
Commissioners, vacancies in board shall be filled by the President of the United States. Section 4 (*see* section 6, amendment of 1864).
Compensation for services rendered the United States, rates shall be fair and reasonable. Section 6.
Completion of road, time extended. Section 7 (*see* section 5, act of 1864).
Completion of road, main lines to be finished in 1876. Section 17 (*see* sections 5 and 7, amendment of 1864).
Completion of road (Kansas company), time of doing work. Section 10 (*see* section 5, amendment of 1864.)
Congress may compel speedy completion of road. Section 17.
Congress may reduce rates of fare, when net earnings, after sundry deductions, shall exceed 10 per cent. Section 18.
Connections with other roads. Section 15.
Consolidation of companies. Sections 10 and 16 (*see* section 16, amendment of 1864).

Amendment of July 2, 1864.

Capital stock (Union Pacific), shares changed from $1,000 to $100. Section 1.
Capital stock, shall not be increased; deemed personal property. Section 2.
Coal, not included in term "mineral lands." Section 4.

Commissioners, President of the United States authorized to appoint three. Section 6 (*see* section 4, act of 1862).
Companies, may consolidate. Section 16 (*see* sections 10 and 16, act of 1862).
Connection of roads west of initial point. Section 9.
Completion of road, Central Pacific, required to complete 25 miles per year; four years to State line. Section 5.
Completion of road, when Central Pacific, shall reach eastern line of California, may go on 150 miles if Union Pacific is not met. Section 16 (*see* section 10, act of 1862, and section 2, 1866).
Consolidation of companies. Section 16 (*see* sections 10 and 16, act of 1862).
Consolidated companies may build portion of line left uncompleted by any company; powers and duties of. Section 16.

Joint resolution, April 10, 1869.

Commissioners, appointment of, by the President to examine and report upon roads; expenses and pay of. Section 2.

Act of March 3, 1873.

Capital stock, Attorney-General shall bring suit in equity for unpaid subscriptions. Section 4.

Act of May 7, 1878 (Thurman act).

Compensation for services rendered the United States; amount retained; how applied. Section 2.

Act of March 3, 1881.

Commissioner of Railroads, title changed from "Auditor of railroad accounts." Section 1.

Act of July 1, 1862.

Directors, thirteen shall be elected by commissioners, shall have charge of books and property, two (additional) shall be appointed by the President of the United States (altered to five, section 13, act of 1864), qualifications of (amended by section 1, act of 1864), shall have power to appoint agents, to require payment of subscriptions to capital stock (*See* section 2, amendment of 1864). Section 1.
Directors, term of office. Section 1. (*See* section 14, 1864.)

Amendment of July 2, 1864.

Damages (right of way), assessment of, how disposed of. Section 3.
Directors, fifteen to be elected by the stockholders and five to be appointed by the President of the United States. Section 13. (*See* section 1, act of 1862.)
Directors (Government), one to be placed on each standing committee of the company and one on each special committee. Section 13.
Directors (Government), duties of. Section 13.
Directors, time and place of election, term of office. Section 14. (*See* section 1, act of 1862).

Act of March 3, 1873.

Directors of Union Pacific Railroad Company shall not be interested in any contract except as provided. Section 4.
Dividends shall not be made but from actual net earnings. Section 4.

Act of May 7, 1878 (Thurman act).

Dividends, when prohibited, penalty for violation. Section 6.

Act of July 1, 1862.

Fare, rates may be reduced by Congress under certain circumstances. Section 18.
Five per cent of net earnings shall be applied in payment of bonds and interest. Section 6.
First-mortgage bonds (*see* "Bonds, first mortgage").

Amendment of July 2, 1864.

Failure of one company not to affect others. Section 7. (*See* section 17, act of 1862.)
Ferries, condition of construction. Section 9.
First-mortgage bonds (*see* "Bonds, first mortgage").

Act of June 22, 1874.

Five per cent of net earnings shall be demanded by the Secretary of the Treasury. Section 1.

Act of May 7, 1878 (Thurman act).

Forfeitures by companies for failure to perform requirements, how enforced, Section 11.

Act of July 1, 1862.

Grant of land, alternate sections. Section 3. (*See* section 4, amendment of 1864.)
Government bonds (*see* "Bonds, subsidy").
Government transportation, rates shall be fair and reasonable, and applied to payments of bonds and interest. Section 6.
Government transportation, half to be paid in cash. Section 6. (*See* section 5, amendment of 1864, and section 9, act of March 3, 1871.)

Amendment of July 2, 1864.

Grant of land doubled, restrictions upon. Section 4.
Government bonds (*see* "Bonds, subsidy").
Government lien, to be subordinate. Section 10.
Government transportation, one-half to be applied to payment of bonds. Section 5.

Act of May 7, 1870.

Grant of certain sections of land in locating termini of road (Central Pacific and Union Pacific companies). Section 1.

Act of March 3, 1871.

Government transportation, one-half to be paid in cash. Section 9. (*See* section 6, act of 1862, and section 5, amendment of 1864).

Act of March 3, 1875.

Government transportation, no money shall be paid to any railroad constructed by the aid of a grant of public land on condition that such road should be "a public highway," etc., company may sue in Court of Claims, statute of limitations. Section 1.

Act of July 1, 1862.

Indian titles, United States shall extinguish. Section 2. (*See* section 18, amendment of 1864.)

Amendment of July 2, 1864.

Iron, not included in term "mineral lands." Section 4.

Act of March 3, 1873.

Interest on bonds of the United States not reimbursed, Secretary of Treasury authorized to withhold payments for transportation, companies may bring suit in Court of Claims, causes on appeal to United States Supreme Court to have precedence. Section 2.

Act of April 30, 1878.

Interest on United States bonds to be deducted before payment for transportation. Section 1. (Proviso in deficiency appropriation.)

Act of May 7, 1878 (Thurman act).

Interest paid by United States on subsidy bonds: Central Pacific and Western Pacific companies, $13,500,000; Union Pacific Railroad Company, $10,000,000. (Preamble.)
Interest on companies' obligations, when 75 per cent of net earnings are insufficient to pay, Secretary of Treasury may remit so much of the 25 per cent of net earnings required to be paid into the sinking fund as may have been applied in payment of interest. Section 5.

Act of March 3, 1887.

Investments of sinking funds, how made. Section 5.

Act of May 6, 1870.

Junction point of Union Pacific and Central Pacific railroads, established northwest of station at Ogden. Section 1.

Act of July 1, 1862.

Land grants, alternate sections. Section 3 (*see* section 4, amendment of 1864).
Land patents, conditions of issue. Section 4.
Lands within 15 miles of designated route to be withdrawn from sale, etc. Section 7 (changed to 25, section 4, amendment of 1864).
Line of road. Sections 8 and 10.
Location of road. Section 1.
Location of road at State lines and one hundredth meridian, provisions relating to. Section 12.

Amendment of July 2, 1864.

Land grants, doubled. Section 4 (*see* section 3, act of 1862).
Land, not to be granted to any road prior to act of 1862. Section 11.
Lands, not to be conveyed to any company until payment of cost of survey. Section 21 (*see* section 4, act of 1862, and section 6, this amendment).
Lands, exempted from operation of act. Section 4.
Lands, patented. Section 6 (*see* section 4, act of 1862).
Lands unoccupied, how acquired. Section 3.
Leavenworth road, if built to one hundredth meridian, may proceed in default of Union Pacific. Section 12.
Line of road, through "intervening States." Section 6 (*see* section 10, act of 1862).

Act of May 6, 1870.

Land, grant of certain sections to locate termini of road (Central Pacific and Union Pacific). Section 1.
Land, reserved for schools, price of. Section 1.

Act of May 7, 1878 (Thurman act).

Liabilities of Central Pacific and Union Pacific Railroad Companies, exclusive of interest, $184,000,000. (Preamble.)

Lien of United States on all properties of companies. Section 9.

Act of July 1, 1862.

Map designating route of road, to be filed in the Department of the Interior. Section 7 (*see* section 5, amendment of 1864).
Minerals, conditions of grant. Section 3 (*see* section 4, amendment of 1864).

Amendment of July 2, 1864.

"Mineral lands," coal and iron not included. Section 4.

Act of July 3, 1866.

Map of Union Pacific (Eastern Division) Railway Company, time for filing extended. Section 1.

Act of March 3, 1887.

Mortgage, United States; proceedings necessary to protect. Section 4.

Act of July 1, 1862.

Name and title of road. Section 1.
Net earnings, 5 per cent shall be applied to bond and interest account. Section 6.
Net earnings, when amount shall exceed 10 per cent of cost (after sundry deductions) Congress may reduce rates of fare. Section 18.

Act of March 3, 1873.

Net earnings, in case 5 per cent is not applied according to law, Secretary of Treasury shall withhold payments for Government transportation; companies may bring suit in Court of Claims; causes on appeal to United States Supreme Court shall have precedence. Section 2.

Act of June 22, 1874.

Net earnings, Secretary of Treasury shall demand 5 per cent. Section 1.

Act of May 7, 1878 (Thurman act).

Net earnings, how ascertained. Section 1.
Net earnings, when 75 per cent are insufficient to pay the annual interest on prior lien of companies' obligations, Secretary of Treasury authorized to remit so much of the 25 per cent thus applied. Section 5.

Act of July 1, 1862.

Officers, to hold for three years. Section 1 (*see* section 14, amendment of 1864).

Act of February 24, 1871.

Omaha Bridge; Union Pacific Railroad Company may issue $2,500,000 of bonds to construct; Congress may regulate tolls and fares. Section 1.

Act of July 1, 1862.

Patents of land, conditions of issue. Section 4.

Act of May 6, 1870.

Private rights, shall not be affected. Section 1.

Act of March 3, 1875.

"Public highway," conditions of grant in connection with use of roads by the Government of the United States. Section 1.

Act of May 7, 1878 (Thurman act).

Property of the companies, United States lien on. Section 9.
Proceedings against the companies, when. Section 10.

Act of March 3, 1879.

Pacific railways, settlement of accounts of. Section 1.
Post-Office Department, settlement of accounts of. Section 1.

Act of March 1, 1881.

Post-Office Department, penalty for not providing railway postal cars. Section 1.
Postal cars, penalty for not providing. Section 1.

Act of June 30, 1882.

Payment to land-grant railroads for transportation. Section 1.

Act of March 3, 1887.

Protection of the security of the United States. Section 4.

Act of July 1, 1862.

Rates of fare may be reduced by Congress under certain circumstances. Section 18.
Reports (annual) to be made by companies to the Secretary of the Treasury. Section 20. (Repealed, 20 Stat., 169.) (*See* Section 1, act of June 25, 1868, and Thurman act.)
Reservation of 25 per cent on installments of bonds. Section 17. (Repealed, section 7, amendment of 1864.)
Right of way granted. Section 2 (*see* section 3, amendment of 1864).
Route, location of, at State lines or one hundredth meridian; in case of difference between companies. President of the United States shall determine. Section 12.
Route of road, map to be filed in the Department of the Interior. Section 7.
Road to be used as a continuous line. Section 12 (*see* section 15, amendment of 1864).
Road, other companies may connect with. Section 15.
Roads named in Section 19, may arrange with the telegraph companies now existing (*see* section 15, amendment of 1864).

Amendment of July 2, 1864.

Reservation of bonds, section 17, act of 1862, repealed.
Right of way; additional; absentees; appraisement of property; appeal; bonds on; costs of; title after; damages, how disposed of. Section 3 (*see* section 2, act of 1862).
Roads may connect west of initial point. Section 9.
Route of road, time for designating and filing map extended one year. Section 5 (*see* section 7, act of 1862).

Act of June 25, 1868. *

Reports (companies), when to be made and what to contain. Section 1.
Reports (commissioners) to be made to the Department of the Interior. Section 3.
Reports (engineers and other officers) to be furnished annually to the Secretary of the Interior. Section 4 (section 20, act of 1862, repealed).

Act of June 20, 1874.

Roads to be operated as a continous line, penalty for failure or refusal. Section 1.

Act of June 19, 1878.

Railroad bureau, organization of. Section 2.
Reports, filing of, by railroad companies; repeal of prior laws (section 20, act of 1862, and act of June 25, 1868). Section 1.
Reports of railroad companies; of what to consist. Section 4.
Reports of railroad companies; penalty for refusal to make. Section 5.

Act of March 1, 1881.

Railway post-office car service; penalty for not providing postal cars. Section 1.

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* Repealed by Thurman act.

Act of July 1, 1862.

State lines, location of road. Section 12.
Stock, capital, amount and number of shares; commissioners shall receive subscriptions to; directors may require payments of. Section 1 (*see* section 2, amendment of 1864).
Stockholders shall have power to make by-laws; commissioners shall call meetings of. Section 1.
Subsidy bonds (*see* "Bonds, subsidy").

Amendment of July 2, 1864.

Stock. capital, shares changed from $1,000 to $100. Section 1.
Stock, assessment of stockholders, how paid; shall not be increased; deemed personal property. Section 2.
Subscriptions to capital stock; percentage to be paid; books to be kept open in several cities. Section 2.
Subsidy bonds (*see* "Bonds, subsidy").
Surveys, cost of; land not to be conveyed to any company until payment of. Section 21 (*see* section 4, act of 1862, and section 6, this amendment).

Joint resolution, April 10, 1869.

Stockholders of Union Pacific Railroad Company shall elect a board of directors and establish their general office. Section 1.

Act of May 6, 1870.

School lands reserved. Section 1.

Act of March 3, 1873.

Subscriptions to capital stock unpaid; Attorney-General shall bring suit in equity. Section 4.

Act of May 7, 1878. (Thurman act.)

Sinking fund established. Section 3. (amended by section 5, act of March 3, 1887).
Sinking fund, credits and payments to. Section 4.
Sinking fund, application of. Section 8.

Act of March 3, 1887.

Sinking funds, investment of. Section 5.

Act of July 1, 1862.

Track to be of uniform width. Section 12.
Transportation services rendered the United States; rates shall be fair and reasonable; half to be paid in cash. Section 6 (*see* section 5, amendment of 1864).
Telegraph companies now existing; roads named in section 19 may arrange with, (*see* section 15, amendment of 1864).
Treasurer to give bond. Section 1.
Timber, conditions of grant. Section 3.

Amendment of July 2, 1864.

Transportation services rendered the United States, one-half compensation shall be applied to the payment of bonds issued by the Government. Section 5 (*see* section 6, act of 1862).
Telegraphing, penalty for failure to extend facilities to the public. Section 15 (*see* section 19, act of 1862).
Timber in land grants to belong to company, with a proviso. Section 4.
Title to right of way, payment of. Section 3.

Joint resolution, April 10, 1869.

Termini of roads (Union Pacific and Central Pacific) shall be at or near Ogden. Section 1.

Act of May 6, 1870.

Termini of roads, location of (Union Pacific and Central Pacific); grant of certain sections of land. Section 1.

Act of March 3, 1871.

Transportation services rendered the Government by Pacific railroads; one-half compensation to be paid in cash. Section 9.

Act of March 3, 1873.

Transportation services rendered the Government; Secretary of the Treasury authorized to withhold payments for reimbursement of interest and 5 per cent of net earnings; companies may bring suit in Court of Claims; causes on appeal to Supreme Court, United States, shall have precedence. Section 2.

Act of March 3, 1875.

Transportation of property or troops of the United States; no money shall be paid to any railroad constructed by the aid of a grant of public land on the condition that such road should be a "public highway;" companies may bring suit in Court of Claims. Section 1.

Act of April 30, 1878.

Transportation of Army; proviso in deficiency appropriation.

Act of May 7, 1878. (Thurman act.)

Transportation services rendered the Government; amount retained; how applied. Section 2.

Act of June 30, 1882.

Transportation of Army, payment to land-grant railroads for. Section 1.

Act of July 1, 1862.

United States bonds (*see* "Bonds, subsidy").
United States to extinguish Indian titles. Section 2.

Amendment of 1864.

Uncompleted work, consolidated roads may finish. Section 16.
Unoccupied lands, how acquired. Section 3.

Act of May 7, 1878. (Thurman act.)

United States lien on all property of the railroad companies. Section 9.

Act of July 1, 1862.

Vacancies in Board of Commissioners, how filled. Section 4 (*see* section 6, amendment of 1864).

ST. LOUIS, IRON MOUNTAIN AND SOUTHERN RAILWAY COMPANY.

Act of June 28, 1884.

"Iron Mountain Railroad Company," repeal of act of July 4, 1866.
Land grant, alternate sections, designated by odd numbers, 10 sections in width on each side of road. (Preamble.)
Lands, restored to the public domain. Section 1.
Line of road. Section 1.
Release of obligations, exclusion of part of line from operation of. Section 1.
Settlers on land grant, at the time of the passage of this act, shall have a prior right to acquire the same, not exceeding 160 acres; proviso. Section 1.

SIOUX CITY AND PACIFIC RAILROAD COMPANY.

Act of March 3, 1879.

Accounts, for transportation services rendered the United States, settlement of. Section 1.

Amendment of July 2, 1864.

Bonds, company entitled to same amount as if road was constructed by Union Pacific. Section 17.
Completion of road, proviso. Section 17.

Act of July 1, 1862.

Line of road (*see* section 17, amendment of 1864). Section 14.

Amendment of July 2, 1864.

Land grant; alternate sections 10 miles in width along entire length of road. Section 17.
Road, if not completed within ten years, shall be forfeited to and become the property of the United States. Section 17.
SOUTHERN TRANSCONTINENTAL RAILWAY COMPANY (heretofore merged in and consolidated with the Texas and Pacific Railway Company under the laws of the State of Texas).

Act of June 22, 1874.

Mortgage of road and property, east of Fort Worth by the Texas and Pacific Railway Company, to secure construction bonds; authorized. Section 1.

SOUTHERN PACIFIC RAILROAD COMPANY OF CALIFORNIA.

Act of July 27, 1866.

Connection may be made with Atlantic and Pacific Railroad at or near the boundary line of California. Section 18.
Gauge shall be uniform with Atlantic and Pacific Railroad. Section 18.
Land grant shall be same as Atlantic and Pacific Railroad. Section 18.
Rates shall be same as Atlantic and Pacific Railroad. Section 18.

Act of June 25, 1868.

Annual reports (same as Union Pacific) shall be made to the Secretary of the Interior on or before October 1, in each year. Section 2. (Repealed, act of June 19, 1878.)

Act of March 3, 1871.

Construction of road to connect the Texas Pacific Railroad with San Francisco; authorized, with a proviso. Section 23.

Act of June 22, 1874.

Mortgages, by Texas and Pacific Railway Company, to secure construction bonds, shall embrace the road and property of Southern Pacific Railroad Company east of Fort Worth. Section 1.

TEXAS PACIFIC RAILROAD COMPANY.

Act of March 3, 1871.

Atlantic and Pacific Railroad Company, rights of shall not be impaired in construction of road by Southern Pacific Railroad Company of California, to connect the "Texas Pacific" with San Francisco. Section 23.
American ore shall be used in the manufacture of iron and steel rails. Section 16.
Annual report, when and where to be made, and what to contain. Section 13.
Arrangements (running), authorized with other companies. Section 5.
Assets of purchased roads, debts greater than, not to be assumed. Section 6.
Bonds (construction and land), issue of, by company, and security for; proceeds of sales, how applied. Section 11.
Bonds issued by company, amount of; payable in gold; how signed. Section 14.
Bonds (construction and land), limitations as to. Section 14.
Buildings, lands granted not exceeding 40 acres at any one point. Section 8.
By-laws, authority to make and enforce. Section 7.
Capital stock, opening of books for subscriptions to. Section 2.
Capital stock, $50,000,000, not to be increased without consent of Congress. Section 3.
Capital stock, how signed. Section 14.
Coal, not included in "Mineral." Section 9.
Company incorporated. Section 1.
Completion of road, issue of patents for each 20-mile section. Section 12.
Completion of road within ten years, Congress may secure. Section 17.
Compensation for transportation services rendered the United States; rates shall be fair and reasonable. Section 19.
Commissioners, constitution of board, meetings of. Section 2.
Commissioners to examine road, appointment of. Section 18.
Congress may insure speedy completion of road. Section 17.
Connections with other roads, no discrimination against; rates not to exceed prices fixed by Congress on Union Pacific and Central Pacific roads. Section 15.
Construction of road by Southern Pacific Railroad Company, to connect the "Texas Pacific" with San Francisco; rights of Atlantic and Pacific Company shall not be impaired. Section 23.
Construction of road, materials may be taken from adjacent lands. Section 8.
Construction bonds (*see* "Bonds").
Construction of road, where to begin, progress of work, Congress may insure speedy completion. Section 17.
Consolidation of road with any company not having a competing through line authorized. Section 4.
Contracts for construction of road, shall not be made by directors. Section 20.
Debts of purchased roads, greater in amount than the cash value of assets received, shall not be assumed. Section 6.
Depots, companies crossing road shall have lands for. Section 2.
Directors, number of, term of office, shall elect officers. Section 2.
Directors, shall not contract for construction of any part of road. Section 20.
Discriminations against connecting roads, shall not be made. Section 15.
Election of officers. Section 2.
Franchises and rights of purchased roads, shall vest in Texas Pacific Railroad Company, obligations shall be assumed except debts greater in amount than the cash value of assets received. Section 6.
Grant of land (*see* "Land grant").
Grounds for stations, etc., not exceeding 40 acres of land at any one point, granted. Section 8.
Homestead acts, provisions of extended to other lands. Section 12.
Incorporation of company. Section 1.
Interest on bonds, issued by company, payable in gold. Section 14.
Iron, not included in "Mineral." Section 9.
Land bonds (*see* "Bonds").
Lands, acquisition of. Section 5.
Lands, granted for stations, buildings, etc., not exceeding 40 acres at any one point. Section 8.
Land grant, 40 sections per mile in Territories, and 20 sections per mile in California. Section 9.
Land granted; if disposed of, other lands may be selected; limits of; provision as to Mexican boundary. Section 9.
Lands granted in California. Section 9.
Lands granted and not sold or disposed of in three years, to be subject to settlement. Section 9.

Lands, patents shall issue on completion of each 20-mile section. Sections 12 and 18.
Lands, withdrawal of, from preëmption and sale. Section 12.
Lands, disposal of, to other companies crossing road. Section 21.
Liens (prior), not to be impaired. Section 6.
Line of road. Section 1.
Map of road, to be filed within two years. Section 12.
Materials for construction of road may be taken from adjacent lands. Section 8.
Mexican boundary, provisions as to. Section 9.
"Military post road," railroad declared to be. Section 19.
"Mineral," not to include iron or coal. Section 9.
Mortgage of road, franchises, grants, and acquired lands as security for issue of bonds, to be filed and recorded in Department of Interior. Section 11.
Mortgages issued by company, amount of, how signed, interest payable in gold. Section 14.
Mortgaged lands, limit of construction and land bonds. Section 14.
Name of road changed from "Texas Pacific Railroad Company" to The Texas and Pacific Railway Company (*see* Act of May 2, 1872). Section 1.
New Orleans, Baton Rouge and Vicksburg Railroad Company; provision as to. Section 22.
Officers, election of. Section 2.
Obligations of purchased roads shall be assumed, except debts greater in amount than the cash value of assets received. Section 6.
Patents shall be issued on completion of each 20 miles of road. Section 12 and 18.
Preëmption of lands. Section 12.
Private lands, right of way shall be secured in accordance with law. Section 10.
Purchased roads, rights, franchises, etc., to vest in Texas Pacific Railroad Company, obligations to be assumed, except debts greater in amount than the cash value of assets received. Section 6.
Rates shall not exceed prices fixed by Congress on Union Pacific and Central Pacific. Section 15.
Rates (Government) shall be fair and reasonable. Section 19.
Rails, American ore shall be used in manufacture of. Section 16.
Railroad declared a "military post road." Section 19.
Reports (*see* "Annual reports").
Right of way, 200 feet in width on each side of road. Section 8.
Right of way through lands of private persons, how secured. Section 10.
Right of way by companies crossing road. Section 21.
Rights, franchises, etc., of purchasing roads, to vest in Texas Pacific Railroad Company. Section 6.
Road, line of. Section 1.
Road, crossed by other companies; lands and right of way. Section 21.
Roads purchased, rights, franchises, etc., to vest in Texas Pacific Railroad Company. Section 6.
Route to be designated within two years. Section 12.
Rules, authority to make and enforce. Section 7.
Stations, buildings, etc.; land granted, not exceeding 40 acres at any one point. Section 8.
San Diego Bay; "ship's channel" not to be construed as conveying special right to water front. Section 9.
Settlement of lands granted and not sold or disposed of within three years, authority for. Section 9.
"Ship's channel;" not to be construed as conveying special right to water front in San Diego Bay. Section 9.
Stock (*see* "Capital stock").
Stockholders; to organize company; annual meetings. Section 2.
Southern Pacific Railroad Company of California may construct a road to connect the Texas Pacific Railroad with San Francisco. Section 23.
Subscriptions to capital stock; opening of books. Section 2.
Transportation (United States); not to be impeded. Section 19.

TEXAS AND PACIFIC RAILWAY COMPANY.

Act of May 2, 1872.

American ore to be used in manufacture of iron and steel rails; with a proviso. Section 4.
Bonds (construction), issue of; limitation. Section 2.
Bonds (land), how secured; limitation. Section 2.
Bonds, proceeds of; how only to be applied. Section 3.

Act of March 3, 1873.

Bonds issued by company; may be payable in gold or other lawful money. Section 1.

Act of June 22, 1874.

Bonds (construction); may be secured by new mortgages; limit of. Section 1.

Act of May 2, 1872.

Capital stock, proceeds of; how only to be applied. Section 3.
Completion of road, time of; Congress may insure. Section 5.
Construction bonds (*see* "Bonds").

Act of June 22, 1874.

Consolidated roads; shall be deemed and taken as part of Texas and Pacific Railway. Section 1.

Act of May 2, 1872.

Equipment, standard of; same as required of existing Pacific Railways. Section 3.
Franchises, heretofore conferred upon "Texas Pacific Railroad Company;" Texas and Pacific Railway Company shall have, possess, and enjoy. Section 1.
Granted lands (*see* "Land grant").
Gauge shall be uniform. Section 5.
Land bonds (*see* "Bonds").
Land grant; may be included in mortgage to secure construction bonds; not revived, enlarged, extended, or created by this act. Section 2.
Liens (prior); not affected. Section 3.
Line of road. Section 5.

Act of June 22, 1874.

Lands (public), no further rights granted. Section 1.

Act of May 2, 1872.

Mortgages, amount of land bonds shall not exceed $2.50 per acre. Section 2.
Mortgages, to be filed and recorded in Department of Interior, shall not impair or affect prior lien. Section 3.

Act of March 3, 1873.

Mortgages (former) legalized, if other requirements of law have been complied with. Section 1.

Act of June 22, 1874.

Mortgages (new) may be issued to secure construction bonds. Section 1.
Mortgages, on record with Secretary of Interior, may be canceled and mortgages authorized by this act substituted; limit of. Section 1.
Mortgages, shall embrace roads and property of Southern Pacific Railroad Company and of the Southern Transcontinental Railway Company east of Fort Worth. Section 1.

Act of May 2, 1872.

Name of road, changed from "Texas Pacific Railroad Company" to Texas and Pacific Railway Company. Section 1.
Rails, American ore to be used in manufacture of, with a proviso. Section 4.
Rights, privileges, and franchises heretofore conferred upon "Texas Pacific Railroad Company," Texas and Pacific Railway Company shall have, possess, and enjoy. Section 1.
Road, standard of, same as required of existing Pacific railways. Section 3.
Road, from San Diego eastward, provision as to. Section 5.
Road, between Marshall and Shreveport, how to be controlled and operated. Section 5.

Act of June 22, 1874.

Rights to public lands, none further granted. Section 1.

Act of May 2, 1872.

Stock (*see* "Capital stock").
Standard of road and equipment, same as required of existing Pacific railways. Section 3.

UNION PACIFIC RAILROAD COMPANY, EASTERN DIVISION (formerly "Leavenworth, Pawnee and Western" Railroad Company).

Amendment of July 2, 1864.

Bonds (subsidy), shall not be issued to. Section 12.
Line of road. Section 12.

Act of March 3, 1869.

Authorized to contract with Denver Pacific Railway and Telegraph Company for construction of road between Denver and Cheyenne, forming a continuous line from Kansas City to Cheyenne. (*See* Denver Pacific Railway and Telegraph Company.)

Joint resolution of March 3, 1869.

Authorized to change its name to the Kansas Pacific Railway Company.

UNION PACIFIC RAILROAD COMPANY. UNION PACIFIC RAILWAY COMPANY.

See Pacific Railroad acts.

WESTERN PACIFIC RAILROAD COMPANY.

See Pacific Railroad acts.

APPENDIX B.

LAWS OF THE UNITED STATES AFFECTING PACIFIC RAILROADS.

ACT OF JULY 1, 1862.

12 Stat. 489.

AN ACT to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of the same for postal, military, and other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That Walter S. Burgess, William P. Blodgett, Benjamin H. Cheever, Charles Fosdick Fletcher, of Rhode Island; * * * together with five commissioners to be appointed by the Secretary of the Interior, and all persons who shall or may be associated with them, and their successors, are hereby created and erected into a body corporate and politic in deed and in law, by

Name and title.

the name, style, and title of "The Union Pacific Railroad Company;" and by that name shall have perpetual succession, and shall be able to sue and to be sued, plead and be impleaded, defend and be defended, in all courts of law and equity within the United States, and may make and have a common seal; and the said corporation is hereby authorized and empowered to lay out, locate, construct, furnish, maintain, and enjoy a continuous railroad and telegraph, with the appurtenances,

Location, &c.

from a point on the one hundredth meridian of longitude west from Greenwich, between the south margin of the Valley of the Republican River and the north margin of the Valley of the Platte River, in the Territory of Nebraska, to the western boundary of Nevada Territory, upon the route and terms herinafter provided, and is hereby vested with all the powers, privileges, and immunities necessary to carry into effect the purposes of this act as herein set forth. The capital stock of said company shall consist of one hundred thousand shares of one thousand dollars each, which shall be subscribed for and held in not more than two hundred shares by any one person, and shall be transferable in such manner as the by-laws of said corporation shall provide. The persons hereinbefore named, together with those to be appointed by the Secretary of the Interior, are hereby constituted and appointed commissioners, and such body shall be called the Board of Commissioners of the Union Pacific Railroad and Telegraph Company, and twenty-five shall constitute a quorum for the transaction of business. The first meeting of said Board shall be held at Chicago at such time as the commissioners from Illinois herein named shall appoint, not more than three nor less than one month after the passage of this act, notice of which shall be given by them to the other commissioners by depositing a call thereof in the post-office at Chicago, post-paid, to their address at least forty days before said meeting, and also by publishing said notice in one daily newspaper in each of the cities of Chicago and Saint Louis. Said Board shall organize by the choice from its number of a president, secretary, and treasurer, and they shall require from said treasurer such bonds as may be deemed proper, and may from time to time increase the amount thereof as they may deem proper. It shall be the duty of said Board of Commissioners to open books, or cause books to be opened, at such times and in such principal cities in the United States as they or a quorum of them shall determine, to receive subscriptions to the capital stock of said corporation, and a cash payment of ten per centum on all subscriptions, and to receipt therefor. So soon as two thousand shares shall be in good faith subscribed for, and ten dollars per share actually paid into the treasury of the company, the said president and secretary of said Board of Commissioners shall appoint a time and place for the first meeting of the subscribers to the stock of said company, and shall give notice thereof in at least one newspaper in each State in which subscription books have been opened at least thirty days previous to the day of

Amt. and number of shares of stock changed from $1,000 to $100. Sec. 1, act 1864.

Comm'rs, how appointed and to hold meeting.

Treasurer to give bond, &c.

Books to be kept open. See sec. 2, 1864.

Comm'rs to call meeting of stockholders.

meeting, and such subscribers as shall attend the meeting so called, either in person or by proxy, shall then and there elect by ballot not less than thirteen directors for said corporation; and in such election each share of said capital shall entitle the owner thereof to one vote. The president and secretary of the Board of Commissioners shall act as inspectors of said election, and shall certify under their hands the names of the directors elected at said meeting; and the said commissioner, treasurer, and secretary shall then deliver over to said directors all the properties, subscription books, and other books in their possession, and thereupon the duties of said commissioners and the officers previously appointed by them shall cease and determine forever, and thereafter the stockholders shall constitute said body politic and corporate. At the time of the first and each triennial election of directors by the stockholders two additional directors shall be appointed by the President of the United States, who shall act with the body of directors, and to be denominated directors on the part of the Government; any vacancy happening in the Government directors at any time may be filled by the President of the United States. The directors to be appointed by the President shall not be stockholders in the Union Pacific Railroad Company. The directors so chosen shall, as soon as may be after their election, elect from their own number a president and vice-president, and shall also elect a treasurer and secretary. No person shall be a director in said company unless he shall be a bona fide owner of at least five shares of stock in the said company, except the two directors to be appointed by the President as aforesaid. Said company, at any regular meeting of the stockholders called for that purpose shall have power to make by-laws, rules, and regulations as they shall deem needful and proper, touching the disposition of the stock, property, estate, and effects of the company, not inconsistent herewith, the transfer of shares, the term of office, duties and conduct of their officers and servants, and all matters whatsoever which may appertain to the concerns of said company; and the said board of directors shall have power to appoint such engineers, agents, and subordinates as may from time to time be necessary to carry into effect the objects of this act, and to do all acts and things touching the location and construction of said road and telegraph. Said directors may require payments of subscription to the capital stock, after due notice, at such times and in such proportions as they shall deem necessary to complete the railroad and telegraph within the time in this act prescribed. Said president, vice-president, and directors shall hold their office for three years, and until their successors are duly elected and qualified, or for such less time as the by-laws of the corporation may prescribe; and a majority of said directors shall constitute a quorum for the transaction of business. The secretary and treasurer shall give such bonds, with such security, as the said board shall from time to time require, and shall hold their office at the will and pleasure of the directors. Annual meetings of the stockholders of the said corporation, for the choice of officers (when they are to be chosen) and for the transaction of annual business, shall be holden at such time and place and upon such notice as may be prescribed in the by-laws.

To elect directors. See sec. 13, act of 1864.

Books and property to be delivered to directors.

Two directors to be appointed by the President of the U. S.

Altered to five. Sec. 13, act of 1864.

Directors shall each be owners of five shares of stock changed to fifty. Sec. 1, 1864.

Company make by-laws.

Directors to appoint agents, &c.

Directors to require payment of subscriptions. Sec. 2, act of 1864.

Officers to hold for three years altered by sec. 13, 1864.

SEC. 2. *And be it further enacted*, That the right of way through the public lands be, and the same is hereby, granted to said company for the construction of said railroad and telegraph line; and the right, power, and authority is hereby given to said company to take from the public lands adjacent to the line of said road, earth, stone, timber, and other materials for the construction thereof; said right of way is granted to said railroad to the extent of two hundred feet in width on each side of said railroad where it may pass over the public lands, including all necessary grounds for stations, buildings, workshops, and depots, machine shops, switches, side tracks, turntables, and water stations. The United States shall extinguish as rapidly as may be the Indian titles to all lands falling under the operation of this act and required for the said right of way and grants hereinafter made.

Right of way granted.

See sec. 3, 1864.

U. S. to extinguish Indian titles. Sec. 18, 1864.

SEC. 3. *And be it further enacted*, That there be, and is hereby, granted to the said company, for the purpose of aiding in the construction of said railroad and telegraph line, and to secure the safe and speedy transportation of the mails, troops, munitions of war, and public stores thereon, every alternate section of public land, designated by odd numbers, to the amount of *five* alternate sections per mile on each side of said railroad, on the line thereof, and within the limits of *ten* miles on each side of said road, not sold, reserved, or otherwise disposed of

Land grants—alternate sections.

Changed to TEN by sec. 4, 1864.

Changed to TWENTY. Sec. 4, 1864.

by the United States, and to which a preëmption or homestead claim may not have been attached, at the time the line of said road is definitely fixed: *Provided*, That all *mineral lands* shall be excepted from the operation of this act; but where the same shall contain timber, the timber thereon is hereby granted to said company. And all such lands so granted by this section, which shall not be sold or disposed of by said company within three years after the entire road shall have been completed, shall be subject to settlement and preëmption, like other lands, at a price not exceeding one dollar and twenty-five cents per acre, to be paid to said company.

Minerals and timber. Sec. 4, 1864.

SEC. 4. *And be it further enacted*, That whenever said company shall have completed forty consecutive miles of any portion of said railroad and telegraph line, ready for the service contemplated by this act, and supplied with all necessary drains, culverts, viaducts, crossings, sidings, bridges, turnouts, watering places, depots, equipment furniture, and all other appurtenances of a first-class railroad, the rails and all the other iron used in the construction and equipment of said road to be American manufacture of the best quality, the President of the United States shall appoint three commissioners to examine the same and report to him in relation thereto; and if it shall appear to him that forty consecutive miles of said railroad and telegraph line have been completed and equipped in all respects as required by this act, then, upon certificate of said commissioners to that effect, patents shall issue conveying the right and title to said lands to said company, on each side of the road as far as the same is completed, to the amount aforesaid; and patents shall in like manner issue as each forty miles of said railroad and telegraph line are completed, upon certificate of said commissioners. Any vacancies occurring in said board of commissioners by death, resignation, or otherwise, shall be filled by the President of the United States: *Provided, however*, That no such commissioners shall be appointed by the President of the United States unless there shall be presented to him a statement, verified on oath by the president of said company, that such forty miles have been completed, in the manner required by this act, and setting forth with certainty the points where such forty miles begin and where the same end; which oath shall be taken before a judge of a court of record.

On completion of forty miles changed to TWENTY by sec. 6, 1864. U. S. commissioners to examine.

Patents of land to issue on completion of 40 miles changed to to 20. Sec. 6, 1864.

Vacancies in comm'rs. See sec. 6, act of 1864.

SEC. 5. *And be it further enacted*, That for the purpose herein mentioned the Secretary of the Treasury shall, upon the certificate in writing of said commissioners of the completion and equipment of forty consecutive miles of said railroad and telegraph in accordance with the provisions of this act, issue to said company bonds of the United States of one thousand dollars each, payable in thirty years after date, bearing six per centum per annum interest (said interest payable semi-annually), which interest may be paid in United States treasury notes or any other money or currency which the United States have or shall declare lawful money and a legal tender, to the amount of sixteen of said bonds per mile for such section of forty miles; and to secure the repayment to the United States, as hereinafter provided, of the amount of said bonds so issued and delivered to said company, together with all interest thereon which shall have been paid by the United States, the issue of said bonds and delivery to the company shall *ipso facto* constitute a first mortgage on the whole line of the railroad and telegraph, together with the rolling stock, fixtures and property of every kind and description, and in consideration of which said bonds may be issued; and on the refusal or failure of said company to redeem said bonds, or any part of them, when required so to do by the Secretary of the Treasury, in accordance with the provisions of this act, the said road, with all the rights, functions, immunities, and appurtenances thereunto belonging, and also all lands granted to the said company by the United States, which, at the time of said default, shall remain in the ownership of the said company, may be taken possession of by the Secretary of the Treasury, for the use and benefit of the United States: *Provided*, This section shall not apply to that part of any road now constructed.

Government bonds. See secs. 8 and 10, act 1864. Now 20 miles. Sec. 10, 1864.

See sec. 11 of this act, for 32,000 and $48,000 per mile.

Lien of U. S. bonds made subordinate. See sec. 10, act of 1864.

See sec. 10, act 1864.

SEC. 6. *And be it further enacted*, That the grants aforesaid are made upon condition that said company shall pay said bonds at maturity, and shall keep said railroad and telegraph line in repair and use, and shall at all times transmit dispatches over said telegraph line, and transport mails, troops, and munitions of war, supplies, and public stores upon said railroad for the Government, whenever required to do

Modified. See sec. 5, act of 1864.

Bonds, when and how paid.

so by any department thereof, and that the Government shall at all times have the preference in the use of the same for all the purposes aforesaid, (at fair and reasonable rates of compensation, not to exceed the amounts paid by private parties for the same kind of service;) and all compensation for services rendered for the Government shall be applied to the payment of said bonds and interest until the whole amount is fully paid. Said company may also pay the United States, wholly or in part, in the same or other bonds, treasury notes, or other evidences of debt against the United States, to be allowed at par; and after said road is completed, until said bonds and interest are paid, at least five per centum of the net earnings of said road shall also be annually applied to the payment hereof.

Fair and reasonable rates of compensation.

Government transportation—half to be paid in cash. See sec. 5, act of 1864.

Five per cent. net earnings.

SEC. 7. *And be it further enacted*, That said company shall file their assent to this act, under the seal of said company, in the Department of the Interior, within one year after the passage of this act, and shall complete said railroad and telegraph from the point of beginning as herein provided, to the western boundary of Nevada territory before the first day of July, one thousand eight hundred and seventy-four: *Provided*, That within two years after the passage of this act said company shall designate the general route of said road, as near as may be, and shall file a map of the same in the Department of the Interior, whereupon the Secretary of the Interior shall cause the lands within fifteen miles of said designated route or routes to be withdrawn from pre-emption, private entry, and sale; and when any portion of said route shall be finally located, the Secretary of the Interior shall cause the said lands hereinbefore granted to be surveyed and set off as fast as may be necessary for the purposes herein named: *Provided*, That in fixing the point of connection of the main trunk with the eastern connections, it shall be fixed at the most practicable point for the construction of the Iowa and Missouri branches, as hereinafter provided.

Assent of company to be filed, &c.

Time of completion extended. See sec. 5, 1864.

See sec. 4, act 1864. Map, &c., designating route to be filed, &c.

Lands designated, &c.

SEC. 8. *And be it further enacted*, That the line of said railroad and telegraph shall commence at a point on the one hundredth meridian of longitude west from Greenwich, between the south margin of the valley of the Republican River and the north margin of the valley of the Platte River, in the territory of Nebraska, at a point to be fixed by the President of the United States, after actual surveys; thence running westerly upon the most direct, central, and practicable route, through the territories of the United States, to the western boundary of the territory of Nevada, there to meet and connect with the line of the Central Pacific Railroad Company of California.

From 100th meridian to Nevada.

See sec. 10 of this act.

SEC. 9. *And be it further enacted*, That the Leavenworth, Pawnee and Western Railroad Company of Kansas are hereby authorized to construct a railroad and telegraph line, from the Missouri River, at the mouth of the Kansas River, on the south side thereof, so as to connect with the Pacific Railroad of Missouri, the aforesaid point, on the one hundredth meridian of longitude west from Greenwich, as herein provided, upon the same terms and conditions in all respects as are provided in this act for the construction of the railroad and telegraph line first mentioned, and to meet and connect with the same at the meridian of longitude aforesaid; and in case the general route or line of road from the Missouri River to the Rocky Mountains should be so located as to require a departure northwardly from the proposed line of said Kansas Railroad before it reaches the meridian of longitude aforesaid, the location of said Kansas road shall be made so as to conform thereto; and said railroad through Kansas shall be so located between the mouth of the Kansas River, as aforesaid, and the aforesaid point, on the one hundredth meridian of longitude, that the several railroads from Missouri and Iowa, herein authorized to connect with the same, can make connection within the limits prescribed in this act, provided the same can be done without deviating from the general direction of the whole line to the Pacific coast. The route in Kansas, west of the meridian of Fort Riley, to the aforesaid point, on the one hundredth meridian of longitude, to be subject to the approval of the President of the United States, and to be determined by him on actual survey. And said Kansas company may proceed to build said railroad to the aforesaid point, on the one hundredth meridian of longitude west from Greenwich, in the territory of Nebraska. The Central Pacific Railroad Company of California, a corporation existing under the laws of the State of California, are hereby authorized to construct a railroad and telegraph line from the Pacific coast, at or near San Francisco, or the navigable waters of the Sacramento River to the eastern boundary of California, upon

Kansas Co. to construct road, &c.

Central Pacific R. R. Co., of California, authorized to construct road on same terms and conditions.

the same terms and conditions, in all respects, as are contained in this act for the construction of said railroad and telegraph line first mentioned, and to meet and connect with the first-mentioned railroad and telegraph line on the eastern boundary of California. Each of said companies shall file their acceptance of the conditions of this act in the Department of the Interior within six months after the passage of this act.

Time of doing work, etc.

SEC. 10. *And be it further enacted*, That the said company chartered by the State of Kansas shall complete one hundred miles of their said road, commencing at the mouth of the Kansas River aforesaid, within two years after filing their assent to the conditions of this act, as herein provided, and one hundred miles per year thereafter until the whole is completed; and the said Central Pacific Railroad Company of California shall complete fifty miles of their said road within two years after filing their assent to the provisions of this act, as herein provided, and fifty miles per year thereafter until the whole is completed; and after completing their roads respectively, said companies, or either of them, may unite upon equal terms with the first-named company in constructing so much of said railroad and telegraph line and branch railroads and telegraph lines in this act hereinafter mentioned, through the territories from the State of California to the Missouri River, as shall then remain to be constructed, on the same terms and conditions as provided in this act in relation to the said Union Pacific Railroad Company. And the Hannibal and Saint Joseph Railroad, the Pacific Railroad Company of Missouri, and the first-named company, or either of them, on filing their assent to this act, as aforesaid, may unite upon equal terms, under this act, with the said Kansas company, in constructing said railroad and telegraph, to said meridian of longitude, with the consent of the said State of Kansas; and in case said first-named company shall complete their line to the eastern boundary of California before it is completed across said State by the Central Pacific Railroad Company of California, said first-named company is hereby authorized to continue in constructing the same through California, with the consent of said State, upon the terms mentioned in this act, until said roads shall meet and connect, and the whole line of said railroad and telegraph is completed; and the Central Pacific Railroad Company of California, after completing its road across said State, is authorized to continue the construction of said railroad and telegraph through the Territories of the United States* to the Missouri River, including the branch roads specified in this act, upon the routes hereinbefore and hereinafter indicated, on the terms and conditions provided in this act in relation to the said Union Pacific Railway Company, until said roads shall meet and connect, and the whole line of said railroad and branches and telegraph is completed.

Changed to 25 miles. See sec. 5, act 1864.

Companies may unite in building on equal terms. Sec. 16, 1864, also sec. 16 of this act.

Central Pacific R. R. Co. may continue, &c., to meet other road.

Authority confirmed. See sec. 16, act of 1864, last clause. Also sec. 2, 1866.

Subsidy bonds treble over the Rocky and Sierra Nevada Mountains.

Modified. Sec. 8, 1864.

SEC. 11. *And be it further enacted*, That for three hundred miles of said road most mountainous and difficult of construction, to wit: one hundred and fifty miles westwardly from the eastern base of the Rocky Mountains, and one hundred and fifty miles eastwardly from the western base of the Sierra Nevada Mountains, said points to be fixed by the President of the United States, the bonds to be issued to aid in the construction thereof shall be treble the number per mile hereinbefore provided, and the same shall be issued, and the lands herein granted be set apart, upon the construction of every twenty miles thereof, upon the certificate of the commissioners as aforesaid that twenty consecutive miles of the same are completed; and between the sections last named of one hundred and fifty miles each, the bonds to be issued to aid in the construction thereof shall be double the number per mile first mentioned, and the same shall be issued, and the lands herein granted be set apart, upon the construction of every twenty miles thereof, upon the certificate of the commissioners as aforesaid that twenty consecutive miles of the same are completed: *Provided*, That no more than fifty thousand of said bonds shall be issued under this act to aid in constructing the main line of said railroad and telegraph.

Subsidy bonds double between the mountains.

Location at State lines and 100 meridian.

SEC. 12. *And be it further enacted*, That whenever the route of said railroad shall cross the boundary of any State or Territory, or said meridian of longitude, the two companies meeting or uniting there shall agree upon its location at that point, with reference to the most direct and practicable through route, and in case of difference between

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*See section 6, act of July 2, 1864. The words "and States intervening" inserted.

them as to said location the President of the United States shall determine the said location; the companies named in each State and Territory to locate the road across the same between the points so agreed upon, except as herein provided. The track upon the entire line of railroad and branches shall be of uniform width, to be determined by the President of the United States, so that, when completed, cars can be run from the Missouri River to the Pacific Coast; the grades and curves shall not exceed the maximum grades and curves of the Baltimore and Ohio Railroad; the whole line of said railroad and branches and telegraph shall be operated and used for all purposes of communication, travel, and transportation, so far as the public and Government are concerned, as one connected, continuous line; and the companies herein named in Missouri, Kansas, and California, filing their assent to the provisions of this act, shall receive and transport all iron rails, chairs, spikes, ties, timber, and all materials required for constructing and furnishing said first-mentioned line between the aforesaid point, on the one hundredth meridian of longitude and western boundary of Nevada territory, whenever the same is required by said first-named company, at cost, over that portion of the roads of said companies constructed under the provisions of this act.

Track to be of uniform width, &c.

To be used as continuous line, &c.

SEC. 13. *And be it further enacted*, That the Hannibal and Saint Joseph Railroad Company of Missouri may extend its roads from Saint Joseph via Atchison, to connect and unite with the road through Kansas, upon filing its assent to the provisions of this act, upon the same terms and conditions, in all respects, for one hundred miles in length next to the Missouri River, as are provided in this act for the construction of the railroad and telegraph line first mentioned, and may for this purpose use any railroad charter which has been or may be granted by the legislature of Kansas: *Provided*, That if actual survey shall render it desirable, the said company may construct their road, with the consent of the Kansas legislature, on the most direct and practicable route west from Saint Joseph, Missouri, so as to connect and unite with the road leading from the western boundary of Iowa at any point east of the one hundredth meridian of west longitude, or with the main trunk road at said point; but in no event shall lands or bonds be given to said company, as herein directed, to aid in the construction of their said road for a greater distance than one hundred miles. And the Leavenworth, Pawnee, and Western Railroad Company of Kansas may construct their road from Leavenworth to unite with the road through Kansas.

H. & St. J. road may be extended, etc.

SEC. 14. *And be it further enacted*, That the said Union Pacific Railroad Company is hereby authorized and required to construct a single line of railroad and telegraph from a point on the western boundary of the State of Iowa, to be fixed by the President of the United States, upon the most direct and practicable route, to be subject to his approval, so as to form a connection with the line of said company at some point on the one hundredth meridian of longitude aforesaid, from the point of commencement on the western boundary of the State of Iowa, upon the same terms and conditions, in all respects, as are contained in this act for the construction of the said railroad and telegraph first mentioned; and the said Union Pacific Railroad Company shall complete one hundred miles of the road and telegraph in this section provided for, in two years after filing their assent to the conditions of this act, as by the terms of this act required, and at the rate of one hundred miles per year thereafter, until the whole is completed: *Provided*, That a failure upon the part of said company to make said connection in the time aforesaid, and to perform the obligations imposed on said company by this section and to operate said road in the same manner as the main line shall be operated, shall forfeit to the Government of the United States all the rights, privileges, and franchises granted to and conferred upon said company by this act. And whenever there shall be a line of railroad completed through Minnesota or Iowa to Sioux City, then the said Pacific Railroad Company is hereby authorized and required to construct a railroad and telegraph from said Sioux City upon the most direct and practicable route to a point on, and so as to connect with, the branch railroad and telegraph in this section hereinbefore mentioned, or with the said Union Pacific Railroad, said point of junction to be fixed by the President of the United States, not further west than the one hundredth meridian of longitude aforesaid, and on the same terms and conditions

Iowa road from western boundary of Iowa.

U. P. R. R. Co. required to construct Sioux City road. Sec. 17, act of 1864.

as provided in this act for the construction of the Union Pacific Railroad as aforesaid, and to complete the same at the rate of one hundred miles per year; and should said company fail to comply with the requirements of this act in relation to the said Sioux City railroad and telegraph, the said company shall suffer the same forfeitures prescribed in relation to the Iowa branch railroad and telegraph hereinbefore mentioned.

Other companies may connect, &c.

SEC. 15. *And be it further enacted*, That any other railroad company now incorporated, or hereafter to be incorporated, shall have the right to connect their road with the road and branches provided for by this act, at such places and upon such just and equitable terms as the President of the United States may prescribe. Wherever the word company is used in this act it shall be construed to embrace the words their associates, successors, and assigns, the same as if the words had been properly added thereto.

Word company explained.

Companies authorized to consolidate. See sec. 16, act of 1864. Also sec. 10 of this act.

SEC. 16. *And be it further enacted*, That at any time after the passage of this act all of the railroad companies named herein, and assenting hereto, or any two or more of them, are authorized to form themselves into one consolidated company; notice of such consolidation, in writing, shall be filed in the Department of the Interior, and such consolidated company shall thereafter proceed to construct said railroad and branches and telegraph line upon the terms and conditions provided in this act.

Congress may compel speedy completion of road.

SEC. 17. *And be it further enacted*, That in case said company or companies shall fail to comply with the terms and conditions of this act, by not completing said road and telegraph and branches within a reasonable time, or by not keeping the same in repair and use, but shall permit the same, for an unreasonable time, to remain unfinished, or out of repair and unfit for use, Congress may pass any act to insure the speedy completion of said road and branches, or put the same in repair and use, and may direct the income of said railroad and telegraph line to be thereafter devoted to the use of the United States, to repay all such expenditures caused by the default and neglect of such company or companies: *Provided*, That if said roads are not completed, so as to form a continuous line of railroad, ready for use, from the Missouri River to the navigable waters of the Sacramento River, in California, by the first day of July, eighteen hundred and seventy-six, the whole of all of said railroads before mentioned and to be constructed under the provisions of this act, together with all their furniture, fixtures, rolling stock, machine shops, lands, tenements, and hereditaments, and property of every kind and character, shall be forfeited to and be taken possession of by the United States: *Provided*, That of the bonds of the United States in this act provided to be delivered for any and all parts of the roads to be constructed east of the one hundredth meridian of west longitude from Greenwich, and for any part of the road west of the west foot of the Sierra Nevada Mountain [s], there shall be reserved of each part and instalment, twenty-five per centum, to be and remain in the United States Treasury, undelivered, until said road and all parts thereof provided for in this act are entirely completed; and of all the bonds provided to be delivered for the said road, between the two points aforesaid, there shall be reserved out of each instalment fifteen per centum, to be and remain in the Treasury until the whole of the road provided for in this act is fully completed; and if the said road or any part thereof shall fail of completion at the time limited therefor in this act, then and in that case the said part of said bonds so reserved shall be forfeited to the United States.

Main lines to be finished in 1876. See sec. 5 and 7, act of 1864.

Repealed. See sec. 7, act of 1864.

Under certain circumstances Congress may reduce rates of fare.

SEC. 18. *And be it further enacted*, That whenever it appears that the net earning of the entire road and telegraph, including the amount allowed for services rendered for the United States, after deducting all expenditures, including repairs, and the furnishing, running, and managing of said road, shall exceed ten per centum upon its cost, exclusive of the five per centum to be paid to the United States, Congress may reduce the rates of fare thereon, if unreasonable in amount, and may fix and establish the same by law. And the better to accomplish the object of this act, namely, to promote the public interest and welfare by the construction of said railroad and telegraph line, and keeping the same in working order, and to secure to the Government at all times (but particularly in time of war) the use and benefits of the same for postal, military, and other purposes, Congress, may at any time, having due regard for the rights of said companies named herein, add to, alter, amend, or repeal this act.

SEC. 19. *And be it further enacted*, That the several railroad companies herein named are authorized to enter into an arrangement with the Pacific Telegraph Company, the Overland Telegraph Company, and the California State Telegraph Company, so that the present line of telegraph between the Missouri River and San Francisco may be moved upon or along the line of said railroad and branches as fast as said roads and branches are built; and if said arrangement be entered into, and the transfer of said telegraph line be made in accordance therewith to the line of said railroad and branches, such transfer shall, for all purpose of this act, be held and considered a fulfilment on the part of said railroad companies of the provisions of this act in regard to the construction of said lines of telegraph. And, in case of disagreement, said telegraph companies are authorized to remove their line of telegraph along and upon the line of railroad herein contemplated without prejudice to the rights of said railroad companies named herein.

May arrange with telegraph companies now existing.

See sec. 15, act of 1864.

SEC. 20. *And be it further enacted*, That the corporation hereby created and the roads connected therewith, under the provisions of this act, shall make to the Secretary of the Treasury an annual report wherein shall be set forth—

Companies to make annual report.

This section repealed (20 Stat. 109).

First. The names of the stockholders and their places of residence, so far as the same can be ascertained;

Second. The names and residences of the directors, and all other officers of the company;

Third. The amount of stock subscribed, and the amount thereof actually paid in;

Fourth. A description of the lines of road surveyed, of the lines thereof fixed upon for the construction of the road, and the cost of such survey.

Fifth. The amount received from passengers on the road;

Sixth. The amount received for freight thereon;

Seventh. A statement of the expense of said road and its fixtures;

Eighth. A statement of the indebtedness of said company, setting forth the various kinds thereof. Which report shall be sworn to by the president of the said company, and shall be presented to the Secretary of the Treasury on or before the first day of July in each year.

ACT OF JULY 12, 1862.

AN ACT to amend an act entitled "An act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of the same for postal, military, and other purposes," approved July 1, 1862.

12 Stat., 538.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the first meeting of the commissioners named in the act entitled "An act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of same for postal, military, and other purposes," approved July first, eighteen hundred and sixty-two, and of the five commissioners directed by said act to be appointed by the Secretary of the Interior, shall be held at Bryan Hall, in the city of Chicago, in the State of Illinois, on the first Tuesday in September next, at twelve o'clock, at noon. A notice of said meeting, to be signed by at least ten of the commissioners named in said act, shall be published at least once a week during the six successive weeks commencing on the twentieth of July, one thousand eight hundred and sixty-two, in one daily newspaper in each of the cities of Boston, New York, Philadelphia, Cincinnati, Chicago, and St. Louis, and no other notice of said meeting shall be requisite.

First meeting of commissioners on Pacific Railroad and Telegraph to be held at Chicago.

Notice.

AMENDMENT OF JULY 2, 1864.

13 Stat., 356.

AN ACT to amend an act entitled "An act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of the same for postal, military, and other purposes," approved July 1, 1862.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the capital stock of the company entitled the Union Pacific Railroad Company, authorized by the act of which this act is amendatory, shall be in shares of one hundred dollars, instead of one thousand dollars, each; that the number of shares shall be one million, instead of one hundred thousand; and that the number of shares which any person shall hold to entitle him to serve as a director in said company (except the five directors to be appointed by the Government) shall be fifty shares instead of five shares; and that every subscriber to said capital stock for each share of one thousand dollars, heretofore subscribed, shall be entitled to a certificate for ten shares for one hundred dollars each; and that the following words in section first of said act, "which shall be subscribed for and held in not more than two hundred shares by any one person," be, and the same are hereby, repealed.

Shares of Union Pacific Railroad Company changed from $1,000 to $100.

Ownership of stock by directors. See sec. 1, act 1862.

SEC. 2. *And be it further enacted*, That the Union Pacific Railroad Company shall cause books to be kept open to receive subscriptions to the capital stock of said company, (until the entire capital of one hundred millions of dollars shall be subscribed), at the general office of said company in the city of New York, and in each of the cities of Boston, Philadelphia, Baltimore, Chicago, Cincinnati, and Saint Louis, at such places as may be designated by the President of the United States, and in such other localities as may be directed by him. No subscription for said stock shall be deemed valid unless the subscriber therefor shall, at the time of subscribing, pay or remit to the treasury of the company an amount per share subscribed by him equal to the amount per share previously paid by the then existing stockholders. The said company shall make assessments upon its stockholders of not less than five dollars per share, and at intervals of not exceeding six months from and after the passage of this act, until the par value of all shares subscribed shall be fully paid; and money only shall be receivable for any such assessment, or as an equivalent for any portion of the capital stock hereinbefore authorized. The capital stock of said company shall not be increased beyond the actual cost of said road. And the stock of the company shall be deemed personal property, and shall be transferable on the books of the company, at the general office of said company in the city of New York, or at such other transfer office as the company may establish.

Books to be kept open in several cities. See sect. 1, 1862.

Per cent. to be paid.

Assessments of stockholders.

How paid.

Amount of capital.

Stock personal property.

SEC. 3. *And be it further enacted*, That the Union Pacific Railroad Company, and all other companies provided for in this act and the act to which this is an amendment, be, and hereby are empowered to enter upon, purchase, take, and hold any lands or premises that may be necessary and proper for the construction and working of said road, not exceeding in width one hundred feet on each side of its center line, unless a greater width be required for the purpose of excavation or embankment; and also any lands or premises that may be necessary and proper for turnouts, standing places for cars, depots, station-house[s] or any other structures required in the construction and operating of said road. And each of said companies shall have the right to cut and remove trees or other materials that might by falling encumber its road-bed, though standing or being more than one hundred feet therefrom. And in case the owner or claimant of such lands or premises and such company can not agree as to the damages, the amount shall be determined by the appraisal of three disinterested commissioners, who may be appointed upon application by any party to any judge of a court of record in any of the territories in which the lands or premises to be taken lie; and said commissioners, in their assessments of damages, shall appraise such premises at what would have been the value thereof if the road had not been built; and upon return into court of such appraisement, and upon the payment to the clerk thereof of the amount so awarded by the commissioners for the use and benefit of the owner thereof, said premises shall be deemed to be taken by said company, which shall thereby acquire full title to the same for the purposes aforesaid. And either party feeling aggrieved by said assessment may,

Additional right of way granted. See sec. 2, 1862.

Assessment of damages.

Payment and title.

Appeal.

within thirty days, file an appeal therefrom, and demand a jury of twelve men to estimate the damage sustained; but such appeal shall not interfere with the rights of said company to enter upon the premises taken, or to do any act necessary in the construction of its road. And said party appealing shall give bonds with sufficient surety or sureties, for the payment of any costs that may arise upon such appeal. And in case the party appealing does not obtain a more favorable verdict, such party shall pay the whole cost incurred by the appellee, as well as its own. And the payment into court for the use of the owner or claimant, of a sum equal to that finally awarded shall be held to vest in said company the title of said land, and the right to use and occupy the same for the construction, maintaining, and operating of the road of said company. And in case any of the lands to be taken as aforesaid shall be held by any person residing without the territory, or subject to any legal disability, the court may appoint a proper person who shall give bonds with sufficient surety or sureties, for the faithful execution of his trust, and who may represent in court the person disqualified or absent as aforesaid, when the same proceedings shall be had in reference to the appraisement of the premises to be taken, and with the same effect as have been already described. And the title of the company to the land taken by virtue of this act shall not be affected nor impaired by reason of any failure by any guardian to discharge faithfully his trust. And in case it shall be necessary for either of the said companies to enter upon lands which are unoccupied, and of which there is no apparent owner or claimant, it may proceed to take and use the same for the purpose of its said railroad, and may institute proceedings in manner described for the purpose of ascertaining the value of, and acquiring a title to, the same, and the court may determine the kind of notice to be served on such owner or owners, and may in its discretion appoint an agent or guardian to represent such owner or owners in case of his or their incapacity or non-appearance. But in case no claimant shall appear within six years from the time of the opening of said road across any land, all claim to damages against said company shall be barred. It shall be competent for the legal guardian of any infant, or any other person under guardianship, to agree with the proper company as to damages sustained by reason of the taking of any lands of any such person under disability, as aforesaid, for the use as aforesaid; and upon such agreement being made, and approved by the court having supervision of the official acts of said guardian, the said guardian shall have full power to make and execute a conveyance thereof to the said company which shall vest the title thereto in the said company.

Bonds on appeal.

Costs of appeal.

Title after appeal.

Absentees and infants.

Unoccupied lands, how acquired.

Damages, how disposed of.

SEC. 4. *And be it further enacted*, That section three of said act be hereby amended by striking out the word "five," where the same occurs in said section, and by inserting in lieu thereof the word "ten;" and by striking out the word "ten," where the same occurs in said section, and by inserting in lieu thereof the word "twenty." And section seven of said act is hereby amended by striking out the word "fifteen," where the same occurs in said section, and inserting in lieu thereof the word "twenty-five." And the term "mineral land," wherever the same occurs in this act, and the act to which this is an amendment, shall not be construed to include coal and iron land. And any lands granted by this act, or the act to which this is an amendment, shall not defeat or impair any pre-emption, homestead, swamp land, or other lawful claim, nor include any government reservation or mineral land, or the improvements of any bona fide settler, or any lands returned and denominated as mineral lands, and the timber necessary to support his said improvement as a miner or agriculturist, to be ascertained under such rules as have been or may be established by the Commissioner of the General Land Office, in conformity with the provisions of the pre-emption laws: *Provided*, That the quantity thus exempted by the operation of this act, and the act to which this act is an amendment, shall not exceed one hundred and sixty acres for each settler who claims as an agriculturist, and such quantity for each settler who claims as a miner, as the said Commissioner may establish by general regulation: *Provided, also*, That the phrase, "but where the same shall contain timber, the timber thereon is hereby granted to said company," in the proviso to said section three, shall not apply to the timber growing or being on any land farther than ten miles from the center line of any one of said roads or branches mentioned in said

Sec. 3, 1862, amended, doubling grant of land.

Sec. 7, 1862, amended, withdrawing land from sale.

Coal and iron not minerals.

Certain lands not to be granted.

160 acres only exempted.

Timber to be company's. Sec. 3, 1862.

Other lands exempted.

act, or in this act. And all lands shall be excluded from the operation of this act, and of the act to which this act is an amendment, which were located, or selected to be located, under the provisions of an act entitled "An act donating lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," approved July second, eighteen hundred and sixty-two, and notice thereof given at the proper land office.

Time extended one year. Secs. 7 and 17, 1862, amended.

SEC. 5. *And be it further enacted*, That the time for designating the general route of said railroad, and of filing the map of the same, and the time for the completion of that part of the railroads required by the terms of said act of each company, be, and the same is hereby, extended one year from the time in said act designated; and that the

Twenty-five miles per year changed from 50. Sec. 10, 1862.

Central Pacific Railroad Company of California shall be required to complete twenty-five miles of their said road in each year thereafter,

Four years to State line.

and the whole to the State line within four years, and that only one-

Government to pay one-half for services.

half of the compensation for services rendered for the Government by said companies shall be required to be applied to the payment of the bonds issued by the Government in aid of the construction of said roads.

Sec. 4, 1862, modified, three commissioners, &c.

SEC. 6. *And be it further enacted*, That the proviso to section four of said act is hereby modified as follows, viz: And the President of the United States is hereby authorized, at any time after the passage of this act, to appoint for each and every of said roads three commissioners, as provided for in the act to which this is amendatory; and the verified statement of the president of the California company,

Affidavit, &c., of C. P. R. R. Co. to be filed in California.

required by said section four, shall be filed in the office of the United States surveyor-general for the State of California, instead of being presented to the President of the United States; and the said surveyor-general shall thereupon notify the said commissioners of the filing of such statement, and the said commissioners shall thereupon proceed to examine the portion of said railroad and telegraph line so completed, and make their report thereon to the President of the United States, as provided by the act to which this is amendatory. And such statement may be filed, and such railroad and telegraph line be examined and reported on by the said commissioners, and the requi-

Lands patented. See sec. 4, 1862. Also sec. 21, this act.

site amount of bonds may be issued and the lands appertaining thereto may be set apart, located, entered, and patented, as provided in this act and the act to which this is amendatory, upon the construction by said railroad company of California of any portion of not less than twenty consecutive miles of their said railroad and telegraph line, upon the certificates of said commissioners that such portion is com-

Sec. 10, 1862, amended.

pleted as required by the act to which this is amendatory. And section ten of the act of which this is amendatory is hereby amended by inserting after the words "United States," in the last clause, the words "and States intervening."

Reservation of bonds by sec. 17, 1862, repealed.

SEC. 7. *And be it further enacted*, That so much of section seventeen of said act as provides for a reservation by the government of a portion of the bonds to be issued to aid in the construction of the said railroads is hereby repealed. And the failure of any one company to

Failure of one company not to affect others. Sec. 17, 1862, altered.

comply fully with the conditions and requirements of this act, and the act to which this is amendatory, shall not work a forfeiture of the rights, privileges, or franchises of any other company or companies that shall have complied with the same.

Partial issue of bonds on uncompleted work. Sec. 11, 1863, modified.

SEC. 8. *And be it further enacted*, That for the purpose of facilitating the work on said railroad, and of enabling the said company as early as practicable to commence the grading of said railroad in the region of the mountains, between the eastern base of the Rocky Mountains and the western base of the Sierra Nevada Mountains, so that the same may be finally completed within the time required by law, it is hereby provided that whenever the chief engineer of the said company, and said commissioners, shall certify that a certain proportion of the work required to prepare the road for the superstructure on any such section of twenty miles is done (which said certificate shall be duly verified), the Secretary of the Treasury is hereby authorized and required, upon the delivery of such certificate, to issue to said com-

Two-thirds on graded portions. See sec. 6 of this act.

pany a proportion of said bonds, not exceeding two-thirds of the amount of bonds authorized to be issued under the provisions of the act, to aid in the construction of such section of twenty miles, nor in any case exceeding two-thirds of the value of the work done, the remaining one-third to remain until the said section is fully completed and certified by the commissioners appointed by the President, accord-

ing to the terms and provisions of the said act; and no such bonds shall issue to the Union Pacific Railroad Company for work done west of Salt Lake City under this section, more than three hundred miles in advance of the completed continuous line of said railroad from the point of beginning on the one hundredth meridian of longitude.

U. P. R. R. Co. cannot receive for more than 300 miles in advance west of Salt Lake City.

SEC. 9. *And be it further enacted*, That to enable any one of said corporations to make convenient and necessary connections with other roads, it is hereby authorized to establish and maintain all necessary ferries upon and across the Missouri River and other rivers which its road may pass in its course; and authority is hereby given said corporation to construct bridges over said Missouri River and all other rivers for the convenience of said road: *Provided*, That any bridge or bridges it may construct over the Missouri River, or any other navigable river on the line of said road, shall be constructed with suitable and proper draws for the passage of steamboats, and shall be built, kept, and maintained, at the expense of said company, in such manner as not to impair the usefulness of said rivers for navigation to any greater extent than such structures of the most approved character necessarily do: *And provided, further*, That any company authorized by this act to construct its road and telegraph line from the Missouri River to the initial point aforesaid, may construct its road and telegraph line so as to connect with the Union Pacific Railroad at any point westwardly of such initial point, in case such company shall deem such westward connection more practicable or desirable; and in aid of the construction of so much of its road and telegraph line as shall be a departure from the route hereinbefore provided for its road, such company shall be entitled to all the benefits, and be subject to all the conditions and restrictions of this act: *Provided further, however*, That the bonds of the United States shall not be issued to such company for a greater amount than is hereinbefore provided, if the same had united with the Union Pacific Railroad on the 100th degree of longitude; nor shall such company be entitled to receive any greater amount of alternate sections of public lands than are also herein provided.

Ferries and bridges.

Roads may connect west of initial point.

No increased amount of bonds, &c.

SEC. 10. *And be it further enacted*, That section five of said act be so modified and amended that the Union Pacific Railroad Company, the Central Pacific Railroad Company, and any other company authorized to participate in the construction of said road, may, on the completion of each section of said road, as provided in this act and the act to which this act is an amendment, issue their first-mortgage bonds on their respective railroad and telegraph lines to an amount not exceeding the amount of the bonds of the United States, and of even tenor and date, time of maturity, rate and character of interest with the bonds authorized to be issued to said railroad companies respectively. And the lien of the United States bonds shall be subordinate to that of the bonds of any or either of said companies hereby authorized to be issued on their respective roads, property, and equipments, except as to the provisions of the sixth section of the act to which this act is an amendment, relating to the transmission of dispatches and the transportation of mails, troops, munitions of war, supplies, and public stores for the Government of the United States. And said section is further amended by striking out the word "forty," and inserting in lieu thereof the words "on each and every section of not less than twenty."

First-mortgage bonds may have lien prior to government.

Sec. 5, 1862, modified.

See sec. 1, act of 1865.

Lien of U. S. bonds to be subordinate, &c.

20 miles instead of 40 miles, as in sec. 5, act of 1862.

SEC. 11. *And be it further enacted*, That if any of the railroad companies entitled to bonds of the United States, or to issue their first-mortgage bonds herein provided for, has, at the time of the approval of this act, issued, or shall thereafter issue, any of its own bonds or securities in such form or manner as in law or equity to entitle the same to priority or preference of payment to the said guaranteed bonds, or said first-mortgage bonds, the amount of such corporate bonds outstanding and unsatisfied, or uncancelled, shall be deducted from the amount of such government and first-mortgage bonds which the company may be entitled to receive and issue; and such an amount only of such government bonds and such first-mortgage bonds shall be granted or permitted, as added to such outstanding, unsatisfied, or uncancelled bonds of the company shall make up the whole amount per mile to which the company would otherwise have been entitled: *And provided, further*, That before any bonds shall be so given by the United States, the company claiming them shall present to the Secretary of the Treasury an affidavit of the president and secretary of the company, to be sworn to before the judge of a court of record, setting forth whether said company has issued any such bonds or securities, and, if so, particularly describing the same, and such other evidence as the secretary may require, so as

Provision for bonds already issued by any companies.

Affidavit of amount of outstanding company bonds.

to enable him to make the deduction herein required; and such affidavit shall then be filed and deposited in the office of the Secretary of the Interior. And any person swearing falsely to any such affidavit, shall be deemed guilty of perjury, and, on conviction thereof, shall be punished as aforesaid: *Provided, also*, That no land granted by this act shall be conveyed to any party or parties, and no bonds shall be issued to any company or companies, party or parties, on account of any road or part thereof, made prior to the passage of the act to which this act is an amendment, or made subsequent thereto under the provisions of any act or acts other than this act, and the act amended by this act.

No land or bonds to go to any co. on road made prior to act of 1862.

Leavenworth and Lawrence roads, no bonds.

SEC. 12. *And be it further enacted*, That the Leavenworth, Pawnee and Western Railroad Company, now known as the Union Pacific Railroad Company, eastern division, shall build the railroad from the mouth of Kansas River, by the way of Leavenworth, or, if that be not deemed the best route, then the said company shall, within two years, build a railroad from the city of Leavenworth to unite with the main stem at or near the city of Lawrence; but to aid in the construction of said branch the said company shall not be entitled to any bonds.

If built to 100th meridian, may proceed in default of U. P. R. R.

And if the Union Pacific Railroad Company shall not be proceeding in good faith to build the said railroad through the Territories when the Leavenworth, Pawnee, and Western Railroad Company, now known as the Union Pacific Railroad Company, eastern division, shall have completed their road to the hundredth degree of longitude, then the last named company may proceed to make said road westward until it meets and connects with the Central Pacific Railroad Company on the same line.

By way of Lawrence and Topeka, or opposite to 100th meridian. West of that line no bonds shall be issued, &c.

And the said railroad from the mouth of Kansas River, to one hundredth meridian of longitude shall be made by the way of Lawrence and Topeka, or on the bank of the Kansas River, opposite said towns: *Provided,* That no bonds shall be issued or lands certified by the United States to any person or company for the construction of any part of the main trunk line of said railroad west of the one hundredth meridian of longitude and east of the Rocky Mountains, until said road shall be completed from or near Omaha, on the Missouri River, to the said one hundredth meridian of longitude.

Directors, 15; Government directors, 5. Sec. 1, 1862, modified.

SEC. 13. *And be it further enacted,* That at and after the next election of directors, the number of directors to be elected by the stockholders shall be fifteen; and the number of directors to be appointed by the President shall be five; and the President shall appoint three additional directors to serve until the next regular election, and thereafter five directors.

One Government director on committees.

At least one of said Government directors shall be placed on each of the standing committees of said company and at least one on every special committee that may be appointed.

Government directors to report, &c.

The Government directors shall, from time to time, report to the Secretary of the Interior, in answer to any inquiries he may make of them, touching the condition, management, and progress of the work, and shall communicate to the Secretary of the Interior, at any time, such information as should be in the possession of the Department.

To visit road &c.

They shall, as often as may be necessary to a full knowledge of the condition and management of the line, visit all portions of the line of road, whether built or surveyed; and, while absent from his home, attending to their duties as directors, shall be paid their actual traveling expenses, and be allowed and paid such reasonable compensation for their time actually employed as the board of directors may decide.

Directors, when elected and where—(Sec. 1, 1862), for one year.

SEC. 14. *And be it further enacted,* That the next election for directors of said railroad shall be held on the first Wednesday of October next at the office of said company in the city of New York, between the hours of 10 o'clock a. m. and four o'clock p. m. of said day; and all subsequent regular elections shall be held annually thereafter at the same place; and the directors shall hold their office for one year, and until their successors qualified.

Road to be used as one continuous line. See sec. 12, act of 1862.

SEC. 15. *And be it further enacted,* That the several companies authorized to construct the aforesaid roads are hereby required to operate and use said roads and telegraph for all purposes of communication, travel, and transportation, so far as the public and the Government are concerned, as one continuous line; and, in such operation and use, to afford and secure to each equal advantages and facilities as to rates, time, and transportation, without any discrimination of any kind in favor of the road or business of any or either of said companies, or adverse to the road or business of any or either of the others, and it shall not be lawful for the proprietors of any line of telegraph, authorized by this act, or the act amended by this act, to refuse or fail to

Must telegraph for all persons. See sec. 19, act of 1862.

convey for all persons requiring the transmission of news and messages of like character, on pain of forfeiting to the person injured for each offense, the sum of one hundred dollars, and such other damage as he may have suffered on account of said refusal or failure, to be sued for and recovered in any court of the United States, or of any State or Territory of competent jurisdiction.

Companies may consolidate. See sec. 16, act of 1862; also sec. 10, 1862.

SEC. 16, *And be it further enacted*, That any two or more of the companies authorized to participate in the benefits of this act are hereby authorized at any time to unite and consolidate their organizations, as the same may or shall be, upon such terms and conditions, and in such manner as they may agree upon, and as shall not be incompatible with this act, or the laws of the State or States in which the road of such companies may be, and to assume and adopt such corporate name and style as they may agree upon, with a capital stock not to exceed the actual cost of the roads, so to be consolidated, and shall file a copy of such consolidation in the Department of the Interior; and thereupon such organization, so formed and consolidated, shall succeed to, possess, and be entitled to receive from the Government of the United States, all and singular the grants, benefits, immunities, guaranties, acts, and things to be done and performed and be subject to the same terms, conditions, restrictions, and requirements which said companies, respectively, at the time of such consolidation, are or may be entitled or subject to under this act, in place and substitution of said companies so consolidated respectively. And all other provisions of this act, so far as applicable, relating or in any manner appertaining to the companies so consolidated, or either thereof, shall apply and be of force as to such consolidated organization. And in case upon the completion by such consolidated organization of the roads, or either of them, of the companies so consolidated, any other of the road or roads of either of the other companies authorized as aforesaid (and forming, and intended or necessary to form, a portion of a continuous line from each of the several points on the Missouri River, hereinbefore designated, to the Pacific coast), shall not have constructed the number of miles of its said road within the time herein required, such consolidated organization is hereby authorized to continue the construction of its road and telegraph in the general direction and route upon which such incomplete or unconstructed road is hereinbefore authorized to be built, until such continuation of the road of such consolidated organization shall reach the constructed road and telegraph of said other company, and at such point to connect and unite therewith; and for and in aid thereof the said consolidated organization may do and perform, in reference to such portion of road and telegraph as shall so be in continuation of its constructed road and telegraph, and to the construction and equipment thereof, all and singular, the several acts and things hereinbefore provided, authorized, or granted to be done by the company hereinbefore authorized to construct and equip the same, and shall be entitled to similar and like grants, benefits, immunities, guarantees, acts, and things to be done and performed by the Government of the United States, by the President of the United States, by the Secretaries of the Treasury and Interior and by commissioners in reference to such company, and to such portion of the road hereinbefore authorized to be constructed by it, and upon the like and similar terms and conditions, so far as the same are applicable thereto. And said consolidated company shall pay to said defaulting company the value to be estimated by competent engineers of all the work done and material furnished by said defaulting company, which may be adopted and used by said consolidated company in the progress of the work under the provisions of this section: *Provided, nevertheless*, That said defaulting company may at any time before receiving pay for its said work and material, as hereinbefore provided, on its own election, pay said consolidated company the value of the work done and material furnished by said consolidated company, to be estimated by competent engineers, necessary for, and used in, the construction of the road of said defaulting company, and resume the control of its said road; and all the rights, benefits, and privileges which shall be acquired, possessed, or exercised, pursuant to this section, shall be to that extent an abatement of the rights, benefits, and privileges hereinbefore granted to such other company. And in case any company authorized thereto, shall not enter into such consolidated organization, such company, upon the completion of its road as hereinbefore provided, shall be entitled to and is hereby authorized to, continue and extend the same under the

Consolidated companies may build portion of the line left uncompleted by any company.

Powers and duties of consolidated organization.

circumstances, and in accordance with the provisions of this section, and to have all the benefits thereof, as fully and completely as are herein provided, touching such consolidated organization. And in case more than one such consolidated organization shall be made, pursuant to this act, the terms and conditions of this act, hereinbefore recited as to one, shall apply in like manner, force, and effect to the other: *Provided, however*, That rights and interests at any time acquired by one such consolidated organization, shall not be impaired by another thereof. It is further provided that should the Central Pacific Railroad Company of California complete their line to the eastern line of the State of California, before the line of the Union Pacific Railroad Company shall have been extended westward so as to meet the line of said first-named company, said first named company may extend their line of road eastward one hundred and fifty miles, on the established route, so as to meet and connect with the line of the Union Pacific Road, complying in all respects with the provisions and restrictions of this act as to said Union Pacific Road, and upon doing so, shall enjoy all the rights, privileges, and benefits conferred by this act on said Union Pacific Railroad Company.

When Central Pacific Road shall reach eastern line of said State, may go on 150 miles if road not met. Sec. 10, 1862, amended. Also see sec. 2, 1866.

Sec. 14, 1862, amended as to Sioux City Branch Road.

SEC. 17. *And be it further enacted*, That so much of section fourteen of said act as relates to a branch from Sioux City be, and the same is hereby, amended so as to read as follows: That whenever a line of railroad shall be completed through the States of Iowa, or Minnesota, to Sioux City, such company, now organized, or may hereafter be organized, under the laws of Iowa, Minnesota, Dakota, or Nebraska, as the President of the United States, by its request may designate or approve for that purpose, shall construct and operate a line of railroad and telegraph from Sioux City, upon the most direct and practicable route to such a point on, and so as to connect with, the Iowa branch of the Union Pacific Railroad from Omaha, or the Union Pacific Railroad, as such company may select, and on the same terms and conditions as are provided in this act and the act to which this is an amendment, for the construction of the said Union Pacific Railroad and telegraph line and branches; and said company shall complete the same at the rate of fifty miles per year; *Provided*, That the said Union Pacific Railroad Company shall be, and is hereby, released from the construction of said branch. And said company constructing said branch shall not be entitled to receive in bonds an amount larger than the said Union Pacific Railroad Company would be entitled to receive if it had constructed the branch under this act and the act to which this is an amendment; but said company shall be entitled to receive alternate sections of land for ten miles in width on each side of the same along the whole length of said branch: *And provided further*, That if a railroad should not be completed to Sioux City, across Iowa or Minnesota, within eighteen months from the date of this act, then said company designated by the President, as aforesaid, may commence, continue, and complete the construction of said branch as contemplated by the provisions of this act: *Provided, however*, That if the said company so designated by the President as aforesaid shall not complete the said branch from Sioux City to the Pacific Railroad within ten years from the passage of this act, then, and in that case, all the railroad which shall have been constructed by said company shall be forfeited to, and become the property of, the United States.

Burlington and M. R. R. Co. may extend road, &c.

SEC. 18. *And be it further enacted*, That the Burlington and Missouri River Railroad Company, a corporation organized under and by virtue of the laws of the State of Iowa, be and hereby is, authorized to extend i[t]s road through the Territory of Nebraska from the point where it strikes the Missouri River south of the mouth of the Platte River, to some point not further west than the one hundredth meridian of west longitude, so as to connect, by the most practicable route, with the main trunk of the Union Pacific Railroad, or that part of it which runs from Omaha to the said one hundredth meridian of west longitude.

Right of way, &c.

And for the purpose of enabling said Burlington and Missouri River Railroad Company to construct that portion of their road herein authorized, the right of way through the public lands is hereby granted to said company for the construction of said road. And the right, power, and authority is hereby given to said company to take from the public lands adjacent to the line of said road, earth, stone, timber, and other materials for the construction thereof. Said right of way is granted to said company to the extent of two hundred feet

where it may pass over the public lands, including all necessary grounds for stations, buildings, work-shops, depots, machine-shops, switches, side-tracks, turn-tables, and water-stations. And the United States shall extinguish, as rapidly as may be consistent with public policy and the welfare of the said Indians, the Indian titles to all lands falling under the operation of this section and required for the said right of way and grant of land herein made.

U. S. to extinguish Indian titles. Sec. 2, 1862

SEC. 19. *And be it further enacted,* That for the purpose of aiding in the construction of said road, there be, and hereby is, granted to the said Burlington and Missouri River Railroad Company, every alternate section of public land (excepting mineral lands as provided in this act) designated by odd numbers, to the amount of ten alternate sections per mile on each side of said road, on the line thereof, and not sold, reserved, or otherwise disposed of by the United States, and to which a pre-emption or homestead claim may not have attached at the time the line of said road is definitely fixed: *Provided,* That said company shall accept this grant within one year from the passage of this act, by filing such acceptance with the Secretary of the Interior, and shall also establish the line of said road, and file a map thereof with the Secretary of the Interior within one year of the date of said acceptance, when the said Secretary shall withdraw the lands embraced in this grant from market.

Land grant to Burlington and M. R. R. Co.

SEC. 20. *And be it further enacted,* That whenever said Burlington and Missouri River Railroad Company shall have completed twenty consecutive miles of the road mentioned in the foregoing section, in the manner provided for other roads mentioned in this act, and the act to which this is an amendment, the President of the United States shall appoint three commissioners to examine and report to him in relation thereto; and if it shall appear to him that twenty miles of said road have been completed as required by this act, then, upon certificate of said commissioner[s] to that effect, patents shall issue conveying the right and title to said lands to said company on each side of said road, as far as the same is completed, to the amount aforesaid; and such examination, report, and conveyance, by patents, shall continue, from time to time, in like manner, until said roads shall have been completed. And the President shall appoint said commissioners, to fill vacancies in said commission, as provided in relation to other roads mentioned in the act to which this is an amendment. And the said company shall be entitled to all the privileges and immunities granted to the Hannibal and Saint Joseph's Railroad Company by the said last-mentioned act, so far as the same may be applicable: *Provided,* That no Government bonds shall be issued to the said Burlington and Missouri River Railroad Company to aid in the construction of said extension of its road; and provided, further, that said extension shall be completed within the period of ten years from the passage of this act.

Burlington and M. R. R. Co. lands, &c.

Bonds.

SEC. 21. *And be it further enacted,* That Before any land granted by this act shall be conveyed to any company or party entitled thereto under this act, there shall first be paid into the Treasury of the United States the cost of surveying, selecting, and conveying the same, by the said company or party in interest, as the titles shall be required by said company, which amount shall, without any further appropriation, stand to the credit of the proper account, to be used by the Commissioner of the General Land Office for the prosecution of the survey of the public lands along the line of said road, and so from year to year until the whole shall be completed, as provided under the provisions of this act.

Lands not to be conveyed to any company until they pay cost of survey &c. Sec. 4, 1862. Sec. 6 1864.

SEC. 22. *And be it fnrther enacted,* That Congress may, at any time, alter, amend, or repeal this act.

Sec. 18, 1862.

AMENDMENT OF MARCH 3, 1865.

13 Stat., 504. AN ACT to amend an act entitled "An act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of the same for postal, military, and other purposes," approved July first, eighteen hundred and sixty-two, and to amend an act amendatory thereof, approved July second, eighteen hundred and sixty-four.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section ten of said act of July second, eighteen hundred and sixty-four, be so modified and amended as to allow the Central Pacific Railroad Company, and the Western Pacific Railroad Company, of California, the Union Pacific Railroad Company, the Union Pacific Railroad Company, eastern division, and all other companies provided for in the said acts of the second of July, eighteen hundred and sixty-four, to issue their six per centum thirty years' bonds, interest payable in any lawful money of the United States, upon their separate roads. And the said companies are hereby authorized to issue, respectively, their bonds to the extent of one hundred miles in advance of a continuous completed line of construction.

May issue bonds 100 miles in advance of completed line, interest payable in any lawful money. Sec. 10, 1864.

Assignment confirmed to San José and Sacramento Road.

SEC. 2. *And be it further enacted,* That the assignment made by the Central Pacific Railroad Company of California to the Western Pacific Railroad Company of said State, of the right to construct all that portion of said railroad and telegraph from the city of San José to the city of Sacramento, is hereby ratified and confirmed to the said Western Pacific Railroad Company, with all the privileges and benefits of the several acts of Congress relating thereto, and subject to all the conditions thereof: *Provided,* That the time within which the said Western Pacific Railroad Company shall be required to construct the first twenty miles of their said road, shall be one year from the first day of July, eighteen hundred and sixty-five, and that the entire road shall be completed from San José to Sacramento, connecting at the latter point with the said Central Pacific Railroad, within four years thereafter.

AMENDMENT OF JULY 3, 1866.

14 Stat., 79. AN ACT to amend an act entitled "An act to amend an act entitled 'An act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of the same for postal, military, and other purposes,' approved July first, eighteen hundred and sixty-two," approved July second, eighteen hundred and sixty-four.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Union Pacific Railway Company, eastern division, is hereby authorized to designate the general route of their said road and to file a map thereof, as now required by law, at any time before the first day of December, eighteen hundred and sixty-six; and upon the filing of the said map, showing the general route of said road, the lands along the entire line thereof, so far as the same may be designated, shall be reserved from sale by order of the Secretary of the Interior: *Provided,* That said company shall be entitled to only the same amount of the bonds of the United States to aid in the construction of their line of railroad and telegraph as they would have been entitled to if they had connected their said line with the Union Pacific Railroad on the one hundredth degree of longitude as now required by law: *And provided further,* That said company shall connect their line of railroad and telegraph with the Union Pacific Railroad, but not at a point more than fifty miles westwardly from the meridian of Denver in Colorado.

U. P. R. R. Co., E. D., time for filing map extended.

U. P. R. R., to proceed till meet.

SEC. 2. *And be it further enacted,* That the Union Pacific Railroad Company, with the consent and approval of the Secretary of the Interior, are hereby authorized to locate, construct, and continue their road from Omaha, in Nebraska Territory, westward, according to the best and most practicable route, and without reference to the initial point on the one hundredth meridian of west longitude, as now provided by law, in a continuous completed line, until they shall meet and connect

with the Central Pacific Railroad Company of California; and the Central Pacific Railroad Company of California, with the consent and approval of the Secretary of the Interior, are hereby authorized to locate, construct, and continue their road eastward, in a continuous completed line, until they shall meet and connect with the Union Pacific Railroad: *Provided,* That each of the above named companies shall have the right, when the nature of the work to be done, by reason of deep cuts and tunnels, shall for the expeditious construction of the Pacific Railroad require it, to work for an extent of not to exceed three hundred miles in advance of their continuous completed line.

Central Pacific may continue their road eastward with consent of Secretary of the Interior till met by U. P. R. R. Co. Sec. 10, 1862, and Sec 16, 1864, amended.

ACT OF JUNE 25, 1868.

*AN ACT relative to filing reports of railroad companies. 16 Stat., 79.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the reports required to be made to the Secretary of the Treasury on or before the first day of July of each year, by the corporations created by or entitled to subsidies under the provisions of an act entitled "An act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of the same for postal, military, and other purposes," approved July first, eighteen hundred and sixty-two, and the acts supplemental to and amendatory thereof, shall hereafter be made to the Secretary of the Interior, on or before the first day of October of each year. Said reports shall furnish full and specific information upon the several points mentioned in the twentieth section of the said act of eighteen hundred and sixty-two, and shall be verified as therein prescribed, and on failure to make the same as herein required, the issue of bonds or patents to the company in default shall be suspended until the requirements of this act shall be complied with by such company. And the reports hitherto made to the Secretary of the Treasury under the said act of July first, eighteen hundred and sixty-two, shall be transferred and delivered by him to the Secretary of the Interior to be filed by him.

Reports of certain railroads to be made on or before October 1 in each year to Secretary of Interior.

To contain what.

Former reports.

* * * * * * *

SEC. 3. *And be it further enacted,* That the reports required from the commissioners appointed to examine and report in relation to the road of any of the corporations whereto reference is made in this act, shall be addressed to and filed in the Department of the Interior; and all such reports heretofore made shall be transferred to and filed in said Department of the Interior; and so much of any and all acts as requires any reports from such companies, or any officers thereof, to be made to the Secretary of the Treasury, is hereby repealed.

Reports of commissioners to be made to Department of Interior.

Repealing clause.

SEC. 4. *And be it further enacted,* That, in addition to the eight subjects referred to in section twenty of the act of July, eighteen hundred and sixty-two, to be reported upon, there shall also be furnished annually to the Secretary of the Interior all reports of engineers, superintendents, or other officers who make annual reports to any of said railroad companies.

Reports of engineers and other officers who make reports to be furnished.

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* Repealed by act of June 19, 1878.

AN ACT RELATING TO THE DENVER PACIFIC, MARCH 3, 1869.

15 Stat., 324. AN ACT to authorize the transfer of lands granted to the Union Pacific Railway Company, Eastern Division, between Denver and the point of its connection with the Union Pacific Railway, to the Denver Pacific Railway and Telegraph Company, and to expedite the completion of railroads to Denver, in the Territory of Colorado.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Union Pacific Railway Company, Eastern Division, be, and it hereby is, authorized to contract with the Denver Pacific Railway and Telegraph Company, a corporation existing under the laws of the Territory of Colorado, for the construction, operation, and maintenance of that part of its line of railroad and telegraph between Denver city and its point of connection with the Union Pacific Railroad, which point shall be at Cheyenne, and to adopt the road-bed already graded by said Denver Pacific Railway and Telegraph Company as said line, and to grant to said Denver Pacific Railway and Telegraph Company the perpetual use of its right of way and depot grounds, and to transfer to it all the rights and privileges, subject to all the obligations pertaining to said part of its line.

Union Pacific Railroad Company may contract with Denver Pacific Railway and Telegraph Company for the construction, &c., of its road and telegraph between Denver City and Cheyenne, &c.

Shall extend its railroad and telegraph to, &c., so as to form continuous line from Kansas City to Cheyenne, &c.

Laws to apply.

Operating of road and rates of tariff not affected.

SEC. 2. *And be it further enacted*, That the said Union Pacific Railway Company, Eastern Division, shall extend its railroad and telegraph to a connection at the city of Denver, so as to form with that part of its line herein authorized to be constructed, operated, and maintained by the Denver Pacific Railway and Telegraph Company, a continuous line of railroad and telegraph from Kansas City, by way of Denver to Cheyenne. And all the provisions of law for the operation of the Union Pacific Railroad, its branches and connections, as a continuous line, without discrimination, shall apply the same as if the road from Denver to Cheyenne had been constructed by the said Union Pacific Railway Company, Eastern Division; but nothing herein shall authorize the said Eastern Division Company to operate the road or fix the rates of tariff for the Denver Pacific Railway and Telegraph Company.

The companies may mortgage their roads.

To receive patents for alternate sections of land.

But not entitled to subsidy in United States bonds.

SEC. 3. *And be it further enacted*, That said companies are hereby authorized to mortgage their respective portions of said road, as herein defined, for an amount not exceeding thirty-two thousand dollars per mile, to enable them respectively to borrow money to construct the same; and that each of said companies shall receive patents to the alternate sections of land along their respective lines of road, as herein defined, in like manner and within the same limits as is provided by law in the case of lands granted to the Union Pacific Railway Company, Eastern Division: *Provided*, That neither of the Companies hereinbefore mentioned shall be entitled to subsidy in United States bonds under the provision of this act.

JOINT RESOLUTION OF MARCH 3, 1869.

15 Stat., 348. JOINT RESOLUTION authorizing the Union Pacific Railway Company, Eastern Division, to change its name to the "Kansas Pacific Railway Company."

Be it resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the Union Pacific Railway Company, Eastern Division, is hereby authorized by resolution of its board of directors, which shall be filed in the office of the Secretary of the Interior, to change its name to the "Kansas Pacific Railway Company."

Union Pacific Railway Company, Eastern Division, to change its name to Kansas Pacific Railway Company.

JOINT RESOLUTION OF APRIL 10, 1869.

16 Stat., 56.

JOINT RESOLUTION for the protection of the interests of the United States in the Union Pacific Railroad Company, the Central Pacific Railroad Company, and for other purposes.

Stockholders of Union Pacific R. R. Co. to elect a board of directors

To establish their general office.

Be it resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the stockholders of the Union Pacific Railroad Company, at a meeting to be held on the twenty-second day of April, eighteen hundred and sixty-nine, at the city of Boston (with power to adjourn from day to day), shall elect a board of directors for the ensuing year; and said stockholders are hereby authorized to establish their general office at such place in the United States as they may select at said meeting: *Provided*, That the passage of this resolution shall not confer any other right upon said Union Pacific Railroad Company than to hold such election, or be held in any manner to relinquish or waive any rights of the United States to take advantage of any act or neglect of said Union Pacific Railroad Company heretofore done or omitted whereby the rights of the General Government have been or may be prejudiced: *And provided further*, That the common terminus of the Union Pacific and the Central Pacific Railroads shall be at or near Ogden; and the Union Pacific Railroad Company shall build, and the Central Pacific Railroad Company pay for and own the railroad from the terminus aforesaid to Promonotory Summit, at which point the rails shall meet and connect and form one continuous line.

No other right conferred or waived hereby.

Common terminus of the Union Pacific and Central Pacific Railroad to be at or near Ogden, &c.

The President to appoint a commission to examine and report upon the roads.

SEC. 2. *And be it further resolved*, That to ascertain the condition of the Union Pacific Railroad and the Central Pacific Railroad, the President of the United States is authorized to appoint a board of eminent citizens, not exceeding five in number, and who shall not be interested in either road, to examine and report upon the condition of, and what sum or sums, if any, will be required to complete each of said roads, for the entire length thereof, to the said terminus as a first-class railroad, in compliance with the several acts relating to said roads; and the expense of such board, including an allowance of ten dollars to each for their services for each day employed in such examination or report, to be paid equally by said companies.

Expenses and pay of commissioners.

Subsidy bonds to be withheld sufficient to secure the full completion, as a first-class road, of all sections of such road, &c.

If the amount to be issued is insufficient, &c.

SEC. 3. *And be it further resolved*, That the President is hereby authorized and required to withhold from each of said companies an amount of subsidy bonds authorized to be issued by the United States under said acts sufficient to secure the full completion as a first-class road of all sections of such road upon which bonds have already been issued, or in lieu of such bonds he may receive as such security an equal amount of the first mortgage bonds of such company; and if it shall appear to the President that the amount of subsidy bonds yet to be issued to either of said companies is sufficient to insure the full completion of such road, he may make requisition upon such company for a sufficient amount of bonds already issued to said company, or in his discretion of their first mortgage bonds, to secure the full completion of the same. And in default of obtaining such security as [is] in this section provided, the President may authorize and direct the Attorney-General to institute such suits and proceedings on behalf and in the name of the United States, in any court of the United States having jurisdiction, as shall be necessary or proper to compel the giving of such security, and thereby, or in any manner otherwise, to protect the interests of the United States in said road, and to insure the full completion thereof as a first-class road, as required by law and the statutes in that case made.

Attorney-General to institute necessary suits.

Attorney-General to investigate whether the charter of the Union Pacific and Central Pacific Railroads have not been forfeited, &c.

SEC. 4. *And be it further resolved*, That the Attorney-General of the United States be, and he is hereby, authorized and directed to investigate whether or not the charter and all the franchises of the Union Pacific Railroad Company and of the Central Pacific Railroad Company have not been forfeited, and to institute all necessary and proper legal proceedings; also to investigate whether or not said companies have or have not made any illegal dividends upon their stock, and if so to institute the necessary proceedings to have the same reimbursed; and also to investigate whether any of the directors or any other agents or employés of said companies have or not violated any penal law, and if so to institute the proper criminal proceedings against all persons who have violated such laws.

To institute criminal proceedings, if, &c.

ACT OF MAY 6, 1870.

16 Stat., 121.

AN ACT to fix the point of junction of the Union Pacific Railroad Company and the Central Pacific Railroad Company.

Point of junction of the Union Pacific Railroad and the Central Pacific R. R. established northwest of the station at Ogden, &c.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the common terminus and point of junction of the Union Pacific Railroad Company and the Central Pacific Railroad Company shall be definitely fixed and established on the line of railroad as now located and constructed, northwest of the station at Ogden, and within the limits of the sections of land hereinafter mentioned, viz: Section thirty-six of township seven, of range two, situated north and west of the principal meridian and base line in the territory of Utah, and sections twenty-five, twenty-six, and thirty-five of township seven, of range two, and section six of township six, and sections thirty and thirty-one of township seven, of range one, and sections one and two of township six, of range two, all situate north and

Grant of certain sections.

west of said principal meridian and base line; and said companies are hereby authorized to enter upon, use, and possess said sections, which are hereby granted to them in equal shares, with the same rights, privileges, and obligations now by law provided with reference to other lands granted to said railroads: *Provided, however*, That the Secretary of the

Reserve for schools.

Interior shall designate a section of land in said township seven, of range two, belonging to said companies, and reserve the same for the benefit of schools in said territory, in accordance with the act of February twenty-one, eighteen hundred and fifty-five, establishing the office of surveyor-general of Utah, and to grant land for school and university purposes: *Provided also*, That said companies shall pay for

Price of land.

any additional lands acquired by this act at the rate ef two dollars and fifty cents an acre: *And provided further*, That no rights of private persons shall be affected by this act.

Private rights.

ACT OF FEBRUARY 24, 1871.

16 Stat., 430.

AN ACT to authorize the Union Pacific Railroad Company to issue its bonds to construct a bridge across the Missouri River at Omaha, Nebraska, and Council Bluffs, Iowa.

Union Pacific Railroad Co. may issue bonds, &c., to construct, &c., a bridge across the Missouri River at Omaha.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That for the more perfect connection of any railroads that are or shall be constructed to the Missouri River, at or near Council Bluffs, Iowa, and Omaha, Nebraska, the Union Pacific Railroad Company be, and it is hereby, authorized to issue such

Construction of bridge, tolls, &c.

bonds, and secure the same by mortgage on the bridge and approaches and appurtenances, as it may deem needful to construct and maintain its bridge over said river, and the tracks and depots required to perfect the same, as now authorized by law of Congress; and said bridge may be so constructed as to provide for the passage of ordinary vehicles and travel, and said company may levy and collect tolls and charges for the use of the same; and for the use and protection of said bridge and property, the Union Pacific Railway Company shall be empowered,

Eastern terminus of railroad not to be changed.

governed, and limited by the provisions of the act entitled "An act to authorize the construction of certain bridges, and to establish them as post-roads," approved July twenty-five, eighteen hundred and sixty-six, so far as the same is applicable thereto: *And provided*, That nothing in this act shall be so construed as to change the eastern terminus of the Union Pacific Railroad from the place where it is now fixed under exist-

Congress may regulate tolls and fares.

ing laws, nor to release said Union Pacific Railroad Company, or its successors, from its obligation as established by existing laws: *Provided also*, That Congress shall at all times have power to regulate said

Amount of bonds.

bridge, and the rates for the transportation of freight and passengers over the same, and the local travel hereinbefore provided for. And the amount of bonds herein authorized shall not exceed two and a half millions of dollars: *Provided*, That if said bridge shall be constructed

Draws.

as a draw-bridge, the same shall be constructed with spans of not less than two hundred feet in length in the clear on each side of the central or pivot pier of the draw.

ACT OF MARCH 3, 1871.

AN ACT making appropriations for the support of the Army for the year ending June 30, 1872, &c. Stat. 225.

* * * * * * *

Secretary of Treasury to pay over to Pacific Railroad Companies one-half of compensation, &c.

SEC. 9. That, in accordance with the fifth section of the act approved July two, eighteen hundred and sixty-four, entitled "An act to amend an act entitled 'An act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of the same for postal, military, and other purposes,' approved July first, eighteen hundred and sixty-two," the Secretary of the Treasury is hereby directed to pay over in money to the Pacific Railroad companies mentioned in said act, and performing services for the United States, one-half of the compensation at the rate provided by law for such services, heretofore or hereafter rendered: *Provided*, That this section shall not be construed to affect the legal rights of the Government or the obligations of the companies, except as herein specifically provided.

Legal rights of parties not otherwise affected.

ACT OF MARCH 3, 1873.

An act making appropriations for the legislative, executive, and judicial expenses of the Government for the year ending June 30, 1874, and for other purposes. 17 Stat. 508.

* * * * * * *

Secretary of the Treasury to withhold payments to certain railroad companies for freight, &c.

SEC. 2. That the Secretary of the Treasury is directed to withhold all payments to any railroad company and its assigns, on account of freights or transportation, over their respective roads, of any kind, to the amount of payments made by the United States for interest upon bonds of the United States issued to any such company, and which shall not have been reimbursed together with the five per cent. of net earnings due and unapplied as provided by law; and any such company may bring suit in the Court of Claims to recover the price of such freight and transportation; and in such suit the right of such company to recover the same upon the law and the facts of the case shall be determined and also the rights of the United States upon the merits of all the points presented by it in answer thereto by them and either party to such suit may appeal to the Supreme Court; and both said courts shall give such cause or causes precedence of all other business.

Companies may bring suit in Court of Claims.

Appeal to Supreme Court. Causes to have precedence.

* * * * * * *

Attorney-General to bring suit in equity against the Union Pacific Railroad Company and all persons who, etc.

SEC. 4. That the Attorney-General shall cause a suit in equity to be instituted in the name of the United States against the Union Pacific Railroad Company, and against all persons who may, in their own names or through any agents, have subscribed for or received capital stock in said road, which stock has not been paid for in full in money, or who may have received, as dividends or otherwise, portions of the capital stock of said road, or the proceeds or avails thereof, or other property of said road, unlawfully and contrary to equity, or who may have received as profits or proceeds of contracts for construction, or equipments of said road, or other contracts therewith, moneys or other property which ought, in equity, to belong to said railroad corporation, or who may, under pretense of having complied with the acts to which this is an addition, have wrongfully and unlawfully received from the United States bonds, moneys, or lands which ought, in equity, to be accounted for and paid to said railroad company or to the United States, and to compel payment for said stock, and the collection and payment of such moneys, and the restoration of such property, or its value, either to said railroad corporation or to the United States, whichever shall in equity be held entitled thereto. Said suit may be brought in the circuit court in any circuit, and all said parties may be made defendants in one suit. Decrees may be entered and enforced against any one or more parties defendant without awaiting the final determination of the cause against other parties. The court where said cause is pending may make such orders and decrees and issue such process as it shall deem necessary to bring in new parties or the representatives of parties deceased, or to carry into effect the purposes of this act. On filing the bill writs of subpœna may be issued by said court against any parties defendant, which writ shall run into any district, and shall be served, as other like process, by the marshal of such district. The books, records, correspondence, and all other documents of the Union Pacific Railroad Company, shall at all times be open to inspection by the Secretary of the Treasury, or such persons as he may delegate for

Suit to be brought in any circuit court.

Decrees.

New parties, etc.

Writs of subpœna to run into any district, and how served.

Books of the railroad company to be open to inspection.

Bankrupt laws not to apply.
Dividends, new stock, mortgages, etc.
No director to be interested in any contract, except, etc.
Penalty.
Jurisdiction of circuit court to issue mandamus.

that purpose. The laws of the United States providing for proceedings in bankruptcy shall not be held to apply to said corporation. No dividend shall hereafter be made by said company but from the actual net earnings thereof; and no new stock shall be issued, or mortgages or pledges made on the property or future earnings of the company, without leave of Congress, except for the purpose of funding and securing debt now existing, or the renewal thereof. No director or officer of said road shall hereafter be interested, directly or indirectly, in any contract therewith, except for his lawful compensation as such officer. Any director or officer who shall pay or declare, or aid in paying or declaring any dividend, or creating any mortgage or pledge prohibited by this act, shall be punished by imprisonment not exceeding two years, and by fine not exceeding five thousand dollars. The proper circuit court of the United States shall have jurisdiction to hear and determine all cases of mandamus to compel said Union Pacific Railroad Company to operate its road as required by law.

ACT OF JUNE 20, 1874.

18 Stat., 111.

AN ACT making additions to the fifteenth section of the act approved July 2, 1864, entitled "An act to amend an act entitled 'An act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the government the use of the same for postal, military, and other purposes,' approved July 1, 1862."

Certain roads to be operated as continuous line with equal facilities.
Agents or officers to be fined in case of refusal.
Union Pacific Company to be sued in case of refusal.
Penalty fixed.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there shall be, and is hereby, added to the fifteenth section of the act approved July second, eighteen hundred and sixty-four, entitled "An act to amend an act entitled 'An act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the government the use of the same for postal, military, and other purposes,' approved July first, eighteen hundred and sixty-two," the following words, namely: "And any officer or agent of the companies authorized to construct the aforesaid roads, or of any company engaged in operating either of said roads, who shall refuse to operate and use the road or telegraph under his control, or which he is engaged in operating for all purposes of communication, travel, and transportation, so far as the public and the government are concerned, as one continuous line, or shall refuse, in such operation and use, to afford and secure to each of said roads equal advantages and facilities as to rates, time, or transportation, without any discrimination of any kind in favor of, or adverse to, the road or business of any or either of said companies, shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be fined in any sum not exceeding one thousand dollars, and may be imprisoned not less than six months. In case of failure or refusal of the Union Pacific Railroad Company, or either of said branches, to comply with the requirements of this act and the acts to which this act is amendatory, the party injured or the company aggrieved may bring an action in the district or circuit court of the United States in the territory, district, or circuit in which any portion of the road of the defendant may be situated, for damages on account of such failure or refusal; and, upon recovery, the plaintiff shall be entitled to judgment for treble the amount of all excess of freight and fares collected by the defendant, and for treble the amount of damages sustained by the plaintiff by such failure or refusal; and for each and every violation of or failure to comply with the requirements of this act, a new cause of action shall arise; and in case of suit in any such territory, district, or circuit, process may be served upon any agent of the defendant found in the territory, district, or circuit in which such suit may be brought, and such service shall be by the court held to be good and sufficient; and it is hereby provided that for all the purposes of said act, and of the acts amendatory thereof, the railway of the Denver Pacific Railway and Telegraph Company shall be deemed and taken to be a part and extension of the road of the Kansas Pacific Railroad, to the point of junction thereof with the road of the Union Pacific Railroad at Cheyenne, as provided in the act of March third, eighteen hundred and sixty-nine.

ACT OF JUNE 22, 1874.

AN ACT providing for the collection of moneys due the United States from the Pacific Railroad Companies. 18 Stat, 200.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Treasury be, and hereby is, directed to require payment of the railroad companies, their successors and assigns, or the successors or assigns of any or either of said companies, of all sums of money due or to become due, the United States for the five per centum of the net earnings provided for by the act entitled "An act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the government the use of the same for postal, military, and other purposes" approved July first, eighteen hundred and sixty-two, or by any other act or acts in relation to the companies therein named, or any other such company or companies, and in case either of said railroad companies shall neglect or refuse to pay the same within sixty days after demand therefor made upon the treasurer of such railroad company, the Secretary of the Treasury shall certify that fact to the Attorney-General, who shall thereupon institute the necessary suits and proceedings to collect and otherwise obtain redress in respect of the same in the proper circuit courts of the United States, and prosecute the same, with all convenient dispatch to a final determination.

Secretary of the Treasury to demand five per cent. of net earning.

Attorney-General to bring suit.

ACT OF MARCH 3, 1875.

AN ACT making appropriations for the support of the Army for the fiscal year ending June thirtieth, eighteen hundred and seventy-six, and for other purposes. 18 Stat., 453.

Provided, That no money shall hereafter be paid to any railroad company for the transportation of any property or troops of the United Stated over any railroad which, in whole or in part, was constructed by the aid of a grant of public land, on the condition that such railroad should be a public highway for the use of the Government of the United States, free from toll or other charge, or upon any other conditions for the use of such road, for such transportation; nor shall any allowance be made for the transportation of officers of the Army over any such road when on duty and under orders as military officers of the United States. But nothing herein contained shall be construed as preventing any such railroad from bringing a suit in the Court of Claims for the charges for such transportation, and recovering for the same if found entitled thereto, by virtue of the laws in force prior to the passage of this act; provided that the claim for such charges shall not have been barred by the statute of limitations at the time of bringing the suit, and either party shall have the right of appeal to the Supreme Court of the United States: *And provided further*, That the foregoing provision shall not apply for the current fiscal year, nor thereafter, to roads where the sole condition of transportation is that the company shall not charge the Government higher rate than they do individuals for like transportation, and when the Quartermaster-General shall be satisfied that this condition has been faithfully complied with.

No payment for transportation of troops, &c., to railroads, receiving land grants &c.

No allowance for transportation of officers on duty.

Right of companies to sue in Court of Claims.

Statute of limitations.

Appeal.

P o.

ACT OF APRIL 30, 1878. 20 Stat., 44.

AN ACT to provide for deficiencies in the appropriations for the service of the government for the fiscal year ending June thirtieth, eighteen hundred and seventy-eight; and for prior years, for subsistence of the Army, and for other purposes.

* * * * * * *

WAR DEPARTMENT.

TRANSPORTATION.—To enable the Secretary of War to pay for transportation of the Army, including baggage of the troops when moving either by land or water; of clothing and camp and garrison equipage from the depots of Philadelphia and Jeffersonville to the several posts and Army depots, and from those depots to the troops in the field; of

Transportation of Army.

horse-equipments and of subsistence stores from the places of purchase and from the places of delivery, under contract, to such places as the circumstances of the service may have required them to be sent; of ordnance, ordnance stores, and small-arms from the founderies and armories to the arsenals, fortifications, frontier posts, and Army depots; freights, wharfage, tolls, and ferriages; the purchase and hire of horses, mules, oxen, and harness, and the purchase and repair of wagons, carts, and drays, and of ships, and other sea-going vessels and boats required for the transportation of supplies and for garrison purposes; for drayage and cartage at the several posts; hire of teamsters; transportation of funds for the pay and other disbursing departments; the expense of sailing public transports on the various rivers, the Gulf of Mexico, and the Atlantic and Pacific; for procuring water at such posts as, from their situation, require it to be brought from a distance; and for clearing roads, and for removing obstructions from roads, harbors, and rivers, to the extent which has been required for the actual operations of the troops in the field, one million two hundred thousand dollars, being a deficiency for the fiscal year ending June thirtieth, eighteen hundred and seventy-seven: *Provided, however*, That no part of this sum shall be paid to any railroad company or to its assigns on account of freights or transportation over their respective roads unless there be an excess due such company after charging the amount of payments made by the United States for interest upon bonds of the United States issued to any such company; but the same shall be paid to the Secretary of the Treasury, to be by him withheld, as directed by existing law.

Railway companies.

Interest on bonds to be deducted.

* * * * * * *

ACT OF MAY 7, 1878.

20 Stat., 56.

AN ACT to alter and amend the act entitled "An act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the government the use of the same for postal, military, and for other purposes," approved July first, eighteen hundred and sixty-two, and also to alter and amend the act of Congress approved July second, eighteen hundred and sixty-four, in amendment of said first-named act.

Preamble.

Whereas, on the first day of July, anno Domini eighteen hundred and sixty-two, Congress passed an act entitled "An act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the government the use of the same for postal, military, and other purposes; and

Whereas afterward, on the second day of July, anno Domini eighteen hundred and sixty-four, Congress passed an act in amendment of said first-mentioned act; and

Whereas, the Union Pacific Railroad Company, named in said acts, and under the authority thereof, undertook to construct a railway, after the passage thereof, over some part of the line mentioned in said acts; and

Whereas, under the authority of the said two acts, the Central Pacific Railroad Company of California, a corporation existing under the laws of the State of California, undertook to construct a railway, after the passage of said acts, over some part of the line mentioned in said acts; and

Whereas the United States, upon demand of said Central Pacific Railroad Company, have heretofore issued, by way of loan, and as provided in said acts, to and for the benefit of said company, in aid of the purposes named in said acts, the bonds of the United States, payable in thirty years from the date thereof, with interest at six per centum per annum, payable half-yearly, to the amount of twenty-five million eight hundred and eighty-five thousand one hundred and twenty dollars, which said bonds have been sold in the market or otherwise disposed of by said company; and

Whereas the said Central Pacific Company has issued and disposed of an amount of its own bonds equal to the amount so issued by the United States, and secured the same by mortgage, and which are, if lawfully issued and disposed of, a prior and paramount lien, in the respect mentioned in said acts, to that of the United States, as stated, and secured thereby; and

Whereas, after the passage of said acts, the Western Pacific Railroad Company, a corporation then existing under the laws of California, did, under the authority of Congress, become the assignee of the rights, duties, and obligations of the said Central Pacific Railroad Company, as provided in the act of Congress passed on the third of March, anno Domini eighteen hundred and sixty-five, and did, under the authority of the said act and of the acts aforesaid, construct a railroad from the city of San José to the city of Sacramento, in California, and did demand and receive from the United States the sum of one million nine hundred and seventy thousand five hundred and sixty dollars of the bonds of the United States, of the description before mentioned as issued to the Central Pacific Company, and in the same manner and under the provisions of said acts; and upon and in respect of the bonds so issued to both said companies, the United States have paid interest to the sum of more than thirteen and a half million dollars, which has not been reimbursed; and

Whereas said Western Pacific Railroad Company has issued and disposed of an amount of its own bonds equal to the amount so issued by the United States to it, and secured the same by mortgage, which are, if lawfully issued and disposed of, a prior and paramount lien to that of the United States, as stated and secured thereby; and

Whereas said Western Pacific Railroad Company has since become merged in, and consolidated with, said Central Pacific Railroad Company, under the name of the Central Pacific Railroad Company, whereby the said Central Pacific Railroad Company has become liable to all the burdens, duties, and obligations before resting upon said Western Pacific Railroad Company; and divers other railroad companies have been merged in and consolidated with said Central Pacific Railroad Company; and

Whereas the United States, upon the demand of the said Union Pacific Railroad Company, have heretofore issued by way of loan to it and as provided in said acts, the bonds of the United States, payable in thirty years from the date thereof, with interest at six per centum per annum, payable half-yearly, the principal sums of which amount to twenty-seven million two hundred and thirty-six thousand five hundred and twelve dollars; on which the United States have paid over ten million dollars interest over and above all reimbursements; which said bonds have been sold in the market or otherwise disposed of by said corporation; and

Whereas said corporation has issued and disposed of an amount of its own bonds equal to the amounts so issued to it by the United States as aforesaid, and secured the same by mortgage, and which are, if lawfully issued and disposed of, a prior and paramount lien, in the respect mentioned in said acts, to that of the United States, as stated, and secured thereby; and

Whereas the total liabilities (exclusive of interest to accrue) to all creditors, including the United States, of the said Central Pacific Company, amount in the aggregate to more than ninety-six million dollars, and those of the said Union Pacific Railroad Company to more than eighty-eight million dollars; and

Whereas the United States, in view of the indebtedness and operations of said several railroad companies respectively, and of the disposition of their respective incomes, are not and can not, without further legislation, be secure in their interests in and concerning said respective railroads and corporations, either as mentioned in said acts or otherwise; and

Whereas a due regard to the rights of said several companies respectively, as mentioned in said act of eighteen hundred and sixty-two, as well as just security to the United States in the premises, and in respect of all the matters set forth in said act, require that the said act of eighteen hundred and sixty-two be altered and amended as hereinafter enacted; and

Whereas, by reason of the premises also, as well as for other causes of public good and justice, the powers provided and reserved in said act of eighteen hundred and sixty-four for the amendment and alteration thereof ought also to be exercised as hereinafter enacted: Therefore,

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the net earnings mentioned in said act of eighteen hundred and sixty-two, of said railroad com- Net earnings.

How to be ascertained.

panies respectively, shall be ascertained by deducting from the gross amount of their earnings, respectively, the necessary expenses actually paid within the year in operating the same and keeping the same in a state of repair, and also the sum paid by them respectively within the year in discharge of interest on their first-mortgage bonds, whose lien has priority over the lien of the United States, and excluding from consideration all sums owing or paid by said companies respectively for interest upon any other portion of their indebtedness; and the foregoing provision shall be deemed and taken as an amendment of said act of eighteen hundred and sixty-four, as well as of said act of eighteen hundred and sixty-two. This section shall take effect on the thirtieth day of June next, and be applicable to all computations of net earnings thereafter; but it shall not effect any right of the United States or of either of said railroad companies existing prior thereto.

Date of effect.

Compensation retained; how applied.

SEC. 2. That the whole amount of compensation which may, from time to time, be due to said several railroad companies respectively for services rendered for the Government shall be retained by the United States, one-half thereof to be presently applied to the liquidation of the interest paid and to be paid by the United States upon the bonds so issued by it as aforesaid, to each of said corporations severally, and the other half thereof to be turned into the sinking fund hereinafter provided, for the uses therein mentioned.

Sinking fund. (Amended by section 5 of act of March 3, 1887.)

SEC 3. That there shall be established in the Treasury of the United States a sinking-fund, which shall be invested by the Secretary of the Treasury in bonds of the United States; and the semi-annual income thereof shall be in like manner from time to time invested, and the same shall accumulate and be disposed of as hereinafter mentioned. And in making such investments the Secretary shall prefer the five per centum bonds of the United States, unless for good reasons appearing to him, and which he shall report to Congress, he shall at any time deem it advisable to invest in other bonds of the United States. All the bonds belonging to said fund shall, as fast as they shall be obtained, be so stamped as to show that they belong to said fund, and that they are not good in the hands of other holders than the Secretary of the Treasury until they shall have been indorsed by him, and publicly disposed of pursuant to this act.

Credits and payments to sinking fund.

SEC. 4. That there shall be carried to the credit of the said fund on the first day of February in each year, the one-half of the compensation for services hereinbefore named, rendered for the Government by said Central Pacific Railroad Company, not applied in liquidation of interest; and, in addition thereto, the said company shall, on said day in each year, pay into the Treasury, to the credit of said sinking-fund, the sum of one million two hundred thousand dollars, or so much thereof as shall be necessary to make the five per centum of the net earnings of said road payable to the United States under said act of eighteen hundred and sixty-two, and the whole sum earned by it as compensation for services rendered for the United States, together with the sum by this section required to be paid, amount in the aggregate to twenty-five per centum of the whole net earnings of said railroad company, ascertained and defined as hereinbefore provided, for the year ending on the thirty-first day of December next preceding. That there shall be carried to the credit of the said fund, on the first day of February in each year, the one-half of the compensation for services hereinbefore named, rendered for the Government by said Union Pacific Railroad Company, not applied in liquidation of interest; and, in addition thereto, the said company shall, on said day in each year, pay into the Treasury, to the credit of said sinking-fund, the sum of eight hundred and fifty-thousand dollars, or so much thereof as shall be necessary to make the five per centum of the net earnings of its said road payable to the United States under said act of eighteen hundred and sixty-two, and the whole sum earned by it as compensation for services rendered for the United States, together with the sum by this section required to be paid, amount in the aggregate to twenty-five per centum of the whole net earnings of said railroad company, ascertained and defined as hereinbefore provided, for the year ending on the thirty-first day of December next preceding.

SEC. 5. That whenever it shall be made satisfactorily to appear to the Secretary of the Treasury, by either of said companies, that seventy-five per centum of its net earnings as hereinbefore defined, for any current year are or were insufficient to pay the interest for such

year upon the obligation of such company, in respect of which obligations there may exist a lien paramount to that of the United States, and that such interest has been paid out of such net earnings, said Secretary is hereby authorized, and it is made his duty, to remit for such current year so much of the twenty-five per centum of net earnings required to be paid into the sinking-fund, as aforesaid, as may have been thus applied and used in the payment of interest as aforesaid.

Dividends prohibited, when.

SEC. 6. That no dividend shall be voted, made, or paid for or to any stockholder or stockholders in either of said companies respectively at any time when the said company shall be in default in respect of the payment either of the sums required as aforesaid to be paid into said sinking-fund, or in respect of the payment of the said five per centum of the net earnings, or in respect of interest upon any debt the lien of which, or of the debt on which it may accrue, is paramount to that of the United States; and any officer or person who shall vote, declare, make, or pay, and any stockholder of any of said companies who shall receive any such dividend contrary to the provisions of this act, shall be liable to the United States for the amount thereof, which, when recovered, shall be paid into said sinking-fund. And every such officer, person, or stockholder who shall knowingly vote, declare, make, or pay any such dividend, contrary to the provisions of this act, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by a fine not exceeding ten thousand dollars, and by imprisonment not exceeding one year.

Penalties.

SEC. 7. That the said sinking-fund so established and accum[ul]ated shall at the maturity of such bonds so respectively issued by the United States, be applied to the payment and satisfaction thereof, according to the interest and proportion of each of said companies in said fund, and of all interest paid by the United States thereon, and not reimbursed, subject to the provisions of the next section.

Application of sinking fund.

SEC. 8. That said sinking-fund so established and accumulated shall, according to the interest and proportion of said companies respectively therein, be held for the protection, security, and benefit of the lawful and just holders of any mortgage or lien debts of such companies respectively, lawfully paramount to the rights of the United States, and for the claims of other creditors, if any, lawfully chargeable upon the funds so required to be paid into said sinking-fund, according to their respective lawful priorities, as well as for the United States, according to the principles of equity, to the end that all persons having any claim upon said sinking-fund may be entitled thereto in due order; but the provisions of this section shall not operate or be held to impair any existing legal right, except in the manner in this act provided, of any mortgage, lien, or other creditor of any of said companies respectively, nor to excuse any of said companies respectively from the duty of discharging, out of other funds, its debts to any creditor except the United States.

United States lien on all property of the R. R. companies.

SEC. 9. That all sums due to the United States from any of said companies respectively, whether payable presently or not, and all sums required to be paid to the United States or into the Treasury, or into said sinking-fund under this act or under the acts hereinbefore referred to, or otherwise, are hereby declared to be a lien upon all the property, estate, rights and franchises of every description granted or conveyed by the United States to any of said companies respectively or jointly, and also upon all the estate and property, real, personal, and mixed, assets, and income of the said several railroad companies respectively, from whatever source derived, subject to any lawfully prior and paramount mortgage lien, or claim thereon. But this section shall not be construed to prevent said companies respectively from using and disposing of any of their property or assets in the ordinary, proper, and lawful course of their current business, in good faith and for valuable consideration.

Proceedings against the companies.

SEC. 10. That it is hereby made the duty of the Attorney-General of the United States to enforce, by proper proceedings against the several railroad companies respectively or jointly, or against either of them, and others, all the rights of the United States under this act and under the acts hereinbefore mentioned, and under any other act of Congress or right of the United States; and in any suit or proceedings already commenced, or that may be hereafter commenced, against any of said companies, either alone or with other parties, in respect of matters

arising under this act, or under the acts or rights hereinbefore mentioned or referred to, it shall be the duty of the court to determine the very right of the matter without regard to matters of form, joinder of parties, multifariousness, or other matters not affecting the substantial rights and duties arising out of the matters and acts hereinbefore stated and referred to.

SEC. 11. That if either of said railroad companies shall fail to perform all and singular the requirements of this act and of the acts hereinbefore mentioned, and of any other act relating to said company, to be by it performed, for the period of six months next after such performance may be due, such failure shall operate as a forfeiture of all the rights, privileges, grants, and franchises derived or obtained by it from the United States; and it shall be the duty of the Attorney-General to cause such forfeiture to be judicially enforced.

Forfeiture.

SEC. 12. That nothing in this act shall be construed or taken in any wise to affect or impair the right of Congress at any time hereafter further to alter, amend, or repeal the said acts hereinbefore mentioned; and this act shall be subject to alteration, amendment, or repeal, as in the opinion of Congress, justice or the public welfare may require. And nothing herein contained shall be held to deny, exclude, or impair any right or remedy in the premises now existing in favor of the United States.

Right of Congress to further amend.

SEC. 13. That each and every of the provisions in this act contained shall severally and respectively be deemed, taken, and held as in alteration and amendment of said act of eighteen hundred and sixty-two and of said act of eighteen hundred and sixty-four respectively, and of both said acts.

ACT OF JUNE 19, 1878.

20 Stat., 169.

AN ACT to create an Auditor of Railroad Accounts, and for other purposes.*

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 20 of the act entitled "An act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of the same for postal, military, and other purposes," approved July first, anno Domini eighteen hundred and sixty-two, and the act entitled "An act relative to filing reports of railroad companies" approved June twenty-fifth, anno Domini eighteen hundred and sixty-eight, be, and the same are hereby repealed.

Repeal of prior laws.

SEC. 2. That the office of Auditor of Railroad Accounts is hereby established as a bureau of the Interior Department. The said Auditor shall be appointed by the President of the United States, by and with the advice and consent of the Senate. The annual salary of the said Auditor shall be, and is hereby, fixed at the sum of five thousand dollars. To assist the said Auditor to perform the duties of said office, the Secretary of the Interior shall appoint one book-keeper at an annual salary of two thousand four hundred dollars, one assistant bookkeeper at an annual salary of two thousand dollars, one clerk at an annual salary of one thousand four hundred dollars, and one copyist at an annual salary of nine hundred dollars. Actual and necessary traveling and other expenses incurred in visiting the offices of the railroad companies hereinafter described, and for which vouchers shall be rendered, are hereby allowed, not to exceed the sum of two thousand dollars per annum; and it is hereby specially provided that each of said railroad companies shall furnish transportation over its own road, without expense to the United States, for the said Auditor, or any person acting under his direction. Incidental expenses for books, stationery, and other material necessary for the use of said bureaus are hereby allowed, not to exceed the sum of seven hundred dollars per annum. And the sum of twelve thousand dollars is hereby appropriated for the uses and purposes of this act for the fiscal year ending June thirtieth, anno Domini, eighteen hundred and seventy-nine.

Organization of bureau.

SEC. 3. That the duties of the said Auditor under and subject to the direction of the Secretary of the Interior shall be, to prescribe a system of reports to be rendered to him by the railroad companies whose roads are in whole or in part west, north, or south of the Missouri

Duties of Auditor.

* Title changed to Commissioner of Railroads. Act March 3, 1881 (21 Stat., 409).

River, and to which the United States have granted any loan or credit or subsidy in bonds or lands; to examine the books and accounts of each of said railroad companies once in each fiscal year, and at such other times as may be deemed by him necessary to determine the correctness of any report received from them; to assist the Government directors of any of said railway companies in all matters which come under their cognizance whenever they may officially request such assistance; to see that the laws relating to said companies are enforced; to furnish such information to the several departments of the Government in regard to tariffs for freight and passengers and in regard to the accounts of said railroad companies as may be by them required, or, in the absence of any request therefor, as he may deem expedient for the interest of the Government; and to make an annual report to the Secretary of the Interior, on the first day of November, on the condition of each of said railroad companies, their road, accounts, and affairs, for the fiscal year ending June thirtieth immediately preceding.

R. R. companies to report, &c.

SEC. 4. That each and every railroad company aforesaid which has received from the United States any bonds of the said United States, issued by way of loan to aid in constructing or furnishing its road, or which has received from the United States any lands, granted to it for a similar purpose, shall make to the said Auditor any and all such reports as he may require from time to time and shall submit its books and records to the inspection of said Auditor or any person acting in his place and stead, at any time that the said Auditor may request, in the office where said books and records are usually kept; and the said Auditor, or his authorized representative, shall make such transcripts from the said books and records as he may desire.

Penalty for neglect or refusal.

SEC. 5. That if any railroad company aforesaid shall neglect or refuse to make such reports as may be called for, or refuse to submit its books and records to inspection, as provided in section four of this act, such neglect or refusal shall operate as a forfeiture, in each case of such neglect or refusal, of a sum not less than one thousand nor more than five thousand dollars, to be recovered by the Attorney-General of the United States, in the name and for the use and benefit of the United States; and it shall be the duty of the Secretary of the Interior, in all such cases of neglect or refusal as aforesaid, to inform the Attorney-General of the facts, to the end that such forfeiture or forfeitures may be judicially enforced.

Application of act.

SEC. 6. This act shall apply to any and all persons or corporations into whose hands either of said railroads may lawfully come, as well as to the original companies.

Date of effect.

SEC. 7. This act shall take effect on and after the first day of July, anno Domini eighteen hundred and seventy-eight.

ACT OF MARCH 3, 1879.

AN ACT making appropriations to supply deficiencies in the appropriations for the fiscal year ending June thirtieth, eighteen hundred and seventy-nine and for prior years, and for those heretofore treated as permanent, and for other purposes. 20 Stat., 420.

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POST-OFFICE DEPARTMENT.

* * * * * * *

Settlement of accounts of Pacific Railways.

That for the proper adjustments of the accounts of the Union Pacific, Central Pacific, Kansas Pacific, Western Pacific, and Sioux City and Pacific Railroad Companies, respectively, for services which have been or may hereafter be performed for the Government for transportation of the Army and transportation of the mails, the Secretary of the Treasury is hereby authorized to make such entries upon the books of the Department as will carry to the credit of said companies the amount so earned or to be earned by them during each fiscal year and withheld under the provisions of section fifty-two hundred and sixty of the Revised Statutes and of the act of Congress approved May seventh, eighteen hundred and seventy-eight: *Provided*, That this shall not authorize the expenditure of any money from the

R. S., 5260. 1878. ch. 75, ante, 44.

Treasury nor change the method now provided by law for the auditing of such claims against the Government: *Provided further,* That this paragraph shall not be so construed as to be a disposition of any moneys due to or to become due to or from said companies respectively, or to, in any way, affect their rights or duties or the rights of the United States, under existing laws, it being only intended hereby to enable the proper accounting officers to state on the books of the Treasury the accounts between the Government and said companies respectively.

Proviso. No change of rights, &c.

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ACT OF MARCH 1, 1881.

21 Stat., 375 AN ACT making appropriations for the service of the Post-Office Department for the fiscal year ending June 30, 1882, and for other purposes.

* * * * * * *

Railway post-office car service. Penalty for not providing railway post-office cars.

For railway post-office car service, one million four hundred and twenty-six thousand dollars. And hereafter when any railroad company fail or refuse to provide railway post-office cars when required by the Post-Office Department, or shall fail or refuse to provide suitable safety-heaters and safety-lamps therefor, with such number of saws and axes to each car for use in case of accident as may be required by the Post-Office Department, said company shall have its pay reduced ten per centum on the rates fixed in section four thousand and two of the Revised Statutes, as amended by act of July twelfth, eighteen hundred and seventy-six, entitled "An act making appropriations for the service of the Post-Office Department for the fiscal year ending June thirtieth, eighteen hundred and seventy-seven, and for other purposes," and as further amended by the act of June seventeen, eighteen hundred and seventy-eight, entitled "An act making appropriations for the service of the Post-Office Department for the fiscal year ending June thirtieth, eighteen hundred and seventy-nine, and for other purposes."

R. S., 4002, 1876, ch. 179; 19 Stat., 78.

ACT OF MARCH 3, 1881.

21 Stat., 409. AN ACT making appropriations for the legislative, executive, and judicial expenses of the Government for the fiscal year ending June 30, 1882, and for other purposes.

* * * * * * *

OFFICE OF AUDITOR OF RAILROAD ACCOUNTS.—For Auditor, who shall hereafter be styled Commissioner of Railroads, four thousand five hundred dollars, &c.

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ACT OF JUNE 30, 1882.

22 Stat., 120. AN ACT making appropriations for the support of the Army for the fiscal year ending June 30, 1883, and for other purposes.

Payment to land-grant railroads for transportation.

For the payment for Army transportation lawfully due such land-grant railroads as have not received aid in Government bonds, to be adjusted by the proper accounting officers in accordance with the decisions of the Supreme Court in cases decided under such land-grant acts, but in no case shall more than fifty per centum of the full amount of the service be paid, one hundred and twenty-five thousand dollars: *Provided,* That such compensation shall be computed upon the basis of the tariff rates for like transportation performed for the public at large, and shall be accepted as in full for all demands for said services: *And provided further,* That any such land-grant roads as shall file with the Secretary of the Treasury their written acceptance of this provision shall hereafter be paid for like service as herein provided; and all accounts of such railroads for services heretofore rendered shall be audited and paid as herein provided upon application of such roads and their acceptance of such sum in full of all claims for such services; and all laws inconsistent herewith are hereby repealed.

ACT OF MARCH 3, 1887.

AN ACT authorizing an investigation of the books, accounts, and methods of railroads which have received aid irom the United States, and for other purposes. 24 Stat., 488.

* * * * * * *

SEC. 4. That whenever, in the opinion of the President, it shall be deemed necessary to the protection of the interests and the preservation of the security of the United States in respect of its lien, mortgage, or other interest in any of the property of any or all of the several companies upon which a lien, mortgage, or other incumbrance paramount to the right, title or interest of the United States for the same property, or any part of the same, may exist and be then lawfully liable to be enforced, the Secretary of the Treasury shall, under the direction of the President, redeem or otherwise clear off such paramount lien, mortgage, or other incumbrance by paying the sums lawfully due in respect thereof out of the Treasury; and the United States shall thereupon become and be subrogated to all rights and securities theretofore pertaining to the debt, mortgage, lien, or other incumbrance in respect of which such payment shall have been made. It shall be the duty of the Attorney General, under the direction of the President, to take all such steps and proceedings, in the courts and otherwise, as shall be needful to redeem such lien, mortgage or other incumbrance, and to protect and defend the rights and interests of the United States in respect of the matters in this section mentioned, and to take steps to foreclose any mortgages or lien of the United States on any such railroad property.

Proceedings to protect the rights, etc., of the United States.

SEC. 5. That the sinking-funds which are or may be held in the Treasury for the security of the indebtedness of either or all of said railroad companies may, in addition to the investments now authorized by law, be invested in any bonds of the United States heretofore issued for the benefit of either or all of said companies, or in any of the first-mortgage bonds of either of said companies which have been issued under the authority of any law of the United States and secured by mortgages of their roads and franchises, which by any law of the United States have been made prior and paramount to the mortgage, lien, or other security of the United States in respect of its advances to either of said companies as provided by law.

Investment of sinking funds.

LAWS RELATING TO THE NORTHERN PACIFIC RAILROAD.

ACT OF JULY 2, 1864.

AN ACT granting lands to aid in the construction of a railroad aud telegraph line from Lake Superior to Puget's Sound, on the Pacific coast, by the northern route. 13 Stat., 365.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That Richard D. Rice, John A. Poore, Samuel P. Strickland, Samuel C. Fessenden, * * * and all such other persons who shall or may be associated with them, and their successors, are hereby created and erected into a body corporate and politic, in deed and in law, by the name, style, and title of the "Northern Pacific Railroad Company," and by that name shall have perpetual succession, and shall be able to sue and be sued, plead and be impleaded, defend and be defended, in all courts of law and equity within the United States, and may make and have a common seal. And said corporation is hereby authorized and empowered to lay out, locate, construct, furnish, maintain, and enjoy a continuous railroad and telegraph line, with the appurtenances, namely, beginning at a point on Lake Superior, in the State of Minnesota or Wisconsin; thence westerly by the most eligible railroad route, as shall be determined by said company, within the territory of the United States on a line north of the forty-fifth degree of latitude to some point on Puget's Sound, with a branch, via the valley of the Columbia River, to a point at or near Portland, in the State of Oregon, leaving the main trunk line at the most suitable place, not more than three hundred miles from its western terminus; and is hereby vested with all the powers, privileges, and immunities necessary to carry into effect the purposes of this act as herein set forth. The capital stock of said company shall consist of one million shares of one hundred dollars each, which shall in all respects be deemed personal property, and shall be transferable in such

Northern Pacific Railroad Company incorporated.

Name.

Empowered to lay out, construct, and enjoy a continuous railroad and telegraph line.

From Lake Superior, on a line north of the 45th degree of latitude, to Puget's Sound.

Right to construct a branch to Portland, Oreg.

Capital stock $100,000,000.

manner as the by-laws of said corporation shall provide. The persons herein before named are hereby appointed commissioners, and shall be called the Board of Commissioners of the "Northern Pacific Railroad Company," and fifteen shall constitu[t]e a quorum for the transaction of business. The first meeting of said board of commissioners shall be held at the Melodion Hall, in the city of Boston, at such time as any five commissioners herein named from Massachusetts shall appoint, not more than three months after the passage of this act, notice of which shall be given by them to the other commissioners by publishing said notice in at least one daily newspaper in the cities of Boston, New York, Philadelphia, Cincinnati, Milwaukee, and Chicago, once a week at least four weeks previous to the day of meeting. Said board shall organize by the choice from its number of a president, vice-president, secretary, and treasurer, and they shall require from said treasurer such bonds as may be deemed proper, and may from time to time increase the amount thereof as they may deem proper. The secretary shall be sworn to the faithful performance of his duties, and such oath shall be entered upon the records of the company, signed by him, and the oath verified thereon. The president and secretary of said board shall in like manner call all other meetings naming the time and place thereof. It shall be the duty of said board of commissioners to open books, or cause books to be opened, at such times, and in such principal cities or other places in the United States, as they, or a quorum of them, shall determine, within six months after the passage of this act, to receive subscriptions to the capital stock of said corporation, and a cash payment of ten per centum on all subscriptions and to receipt therefor. So soon as twenty thousand shares shall in good faith be subscribed for, and ten dollars per share actually paid into the treasury of the company, the said president and secretary of said board of commissioners shall appoint a time and place for the first meeting of the subscribers to the stock of said company, and shall give notice thereof in at least one newspaper in each State in which subscription books have been opened, at least fifteen days previous to *to* the day of meeting, and such subscribers as shall attend the meeting so called, either in person or by lawful proxy, then and there shall elect by ballot thirteen directors for said corporation; and in such election each share of said capital stock shall entitle the owner thereof to one vote. The president and secretary of the board of commissioners, and, in case of their absence or inability, any two of the officers of said board, shall act as inspectors of said election, and shall certify under their hands the names of the directors elected at said meeting; and the said commissioners, the treasurer, and secretary, shall then deliver over to said directors all the properties, subscription books and other books in their possession, and thereupon the duties of said commissioners and the officers previously appointed by them, shall cease and determine forever, and thereafter the stockholders shall constitute said body politic and corporate. Annual meetings of the stockholders of the said corporation for the choice of officers (when they are to be chosen) and for the transaction of business, shall be holden at such time and place and upon such notice as may be prescribed in the by-laws.

Board of Commissioners appointed.

First meeting of commissioners to be held in Boston, Mass.

Officers to be chosen from the board of commissioners.

Books of subscriptions to be opened in such cities as the board may determine.

First meeting of subscribers to capital stock.

Thirteen directors to be elected by stockholders.

Commissioners to deliver to directors all properties, etc.

Annual meetings to be held as prescribed by by-laws.

SEC. 2. *And be it further enacted*, That the right of way through the public lands be, and the same is hereby, granted to said "Northern Pacific Railroad Company," its successors and assigns, for the construction of a railroad and telegraph as proposed; and the right, power, and authority is hereby given to said corporation to take from the public lands, adjacent to the line of said road, material of earth, stone, timber, and so forth, for the construction thereof. Said way is granted to said railroad to the extent of two hundred feet in width on each side of said railroad where it may pass through the public domain, including all necessary ground for station building, workshops, depots, machine-shops, switches, side tracks, turn-tables, and water-stations; and the right of way shall be exempt from taxation within the Territories of the United States. The United States shall extinguish, as rapidly as may be consistent with public policy and the welfare of the said Indians, the Indian titles to all lands falling under the operation of this act, and acquired in the donation to the [road] named in this bill.

Grant of right of way.

Authority to take from adjacent lands material for construction.

Right of way 200 feet in width on each side of said railroad.

Right of way exempt from taxation.

Indian titles to be extinguished by the United States.

SEC. 3. *And be it further enacted*, That there be, and hereby is, granted to the "Northern Pacific Railroad Company," its successors and assigns, for the purpose of aiding in the construction of said railroad and telegraph line to the Pacific coast, and to secure the safe and speedy trans-

Grant of land.

portation of the mails, troops, munitions of war, and public stores, over the route of said line of railway, every alternate section of public land, not mineral, designated by odd numbers, to the amount of twenty alternate sections per mile, on each side of said railroad line, as said company may adopt, through the Territories of the United States, and ten alternate sections of land per mile on each side of said railroad whenever it passes through any State, and whenever on the line thereof, the United States have full title, not reserved, sold, granted, or otherwise appropriated, and free from pre-emption, or other claims or rights, at the time the line of said road is definitely fixed, and plat thereof filed in the office of the Commissioner of the General Land Office; and whenever, prior to said time, any of said sections or parts of sections shall have been granted, sold, reserved, occupied by homestead settlers, or pre-empted, or otherwise disposed of, other lands shall be selected by said company in lieu thereof, under the direction of the Secretary of the Interior, in alternate sections, and designated by odd numbers, not more than ten miles beyond the limits of said alternate sections: *Provided*, That if said route shall be found upon the line of any other railroad route to aid in the construction of which lands have been heretofore granted by the United States, as far as the routes are upon the same general line, the amount of land heretofore granted shall be deducted from the amount granted by this act: *Provided further*, That the railroad company receiving the previous grant of land may assign their interest to said "Northern Pacific Railroad Company," or may consolditate, confederate, and associate with said campany upon the terms named in the first section of this act: *Provided further*, That all mineral lands be, and the same are hereby, excluded from the operations of this act, and in lieu thereof a like quantity of unoccupied and unappropriated agricultural lands, in odd-numbered sections, nearest to the line of said road may be selected as above provided: *And provided further*, That the word "mineral," when it occurs in this act, shall not be held to include iron or coal: *And provided further*, That no money shall be drawn from the Treasury of the United States to aid in the construction of the said "Northern Pacific Railroad."

Forty sections per mile in the Territories.

Twenty sections per mile in the States.

Other lands in lieu of those reserved, etc.

Land limits.

If route is upon the line of any other aided road former grant shall be deducted.

Road having previous grant may assign.

"Mineral" lands not granted.

Agricultural lands may be selected in lieu of mineral lands.

"Mineral" does not include iron or coal.

SEC. 4. *And be it further enacted*, That whenever said "Northern Pacific Railroad Company" shall have twenty-five consecutive miles of any portion of said railroad and telegraph line ready for the service contemplated the President of the United States shall appoint three commissioners to examine the same, and if it shall appear that twenty-five consecutive miles of said road and telegraph line have been completed in a good, substantial, and workmanlike manner, as in all other respects required in this act, the commissioners shall so report to the President of the United States, and patents of lands as aforesaid shall be issued to said company, confirming to said company the right and title to said lands, situated opposite to, and conterminous with, said completed section of said road; and, from time to time, whenever twenty-five additional consecutive miles shall have been constructed, completed, and in readiness as aforesaid, and verified by said commissioners to the President of the United States, then patents shall be issued to said company conveying the additional sections of land as aforesaid, and so on as fast as every twenty-five miles of said road is completed: *Provided*, That no more than ten sections of land per mile, as said road shall be completed, shall be conveyed to said company for all that part of said railroad lying east of the western boundary of the State of Minnesota, until the whole of said railroad shall be finished and in good running order, as a first class railroad, from the place of beginning on Lake Superior to the western boundary of Minnesota: *Provided also*, That lands shall not be granted under the provisions of this act on account of any railroad, or part thereof, constructed at the date of the passage of this act.

The President to appoint three commissioners to examine road.

Commissioners to report to the President.

Proviso as to lands in Minnesota.

Proviso as to road previously built.

SEC. 5. *And be it further enacted*, That said Northern Pacific Railroad shall be constructed in a substantial and workmanlike manner, with all the necessary draws, culverts, bridges, viaducts, crossings, turnouts, stations, and watering places, and all other appurtenances, including furniture, and rolling stock, equal in all respects to railroads of the first class, when prepared for business, with rails of the best quality, manufactured from American iron. And a uniform gauge shall be established throughout the entire length of the road. And there shall be constructed a telegraph line, of the most substantial and approved

Road to be constructed as a "first-class" railroad.

Rails of American iron. (See res. 16 Stat., 378.)

Gauge to be uniform.

Telegraph line.

Condition as to

charges for Government transportation and telegraphic service.

description, to be operated along the entire line: *Provided*, That the said company shall not charge the Government higher rates than they do individuals for like transportation and telegraphic service. And it

Other roads may form running connections on equitable terms.

shall be the duty of the Northern Pacific Railroad Company to permit any other railroad which shall be authorized to be built by the United States, or by the legislature of any Territory or State in which the same may be situated, to form running connections with it, on fair and equitable terms.

Lands to be surveyed as fast as construction of road may require.

SEC. 6. *And be it further enacted*, That the President of the United States shall cause the lands to be surveyed for forty miles in width on both sides of the entire line of said road, after the general route shall be fixed, and as fast as may be required by the construction of said railroad; and the odd sections of land hereby granted shall not be liable to sale, or entry, or pre-emption before or after they are surveyed, except by said company, as provided in this act; but the provisions of the act of September, eighteen hundred and forty-one, granting pre-emption rights, and the acts amendatory thereof, and of the act entitled "An act to secure homesteads to actual settlers on the public domain," approved May twenty, eighteen hundred and sixty-two, shall be, and the same is hereby, extended to all other lands on the line of said road, when surveyed, excepting those hereby granted to said company. And the reserved alternate sections shall not be sold by the Government at a price less than two dollars and fifty cents per acre, when offered for sale.

Government not to be land for less than sold per acre.

Authorizes company to take any lands necessary for construction of its road.

SEC. 7. *And be it further enacted*, That the said "Northern Pacific Railroad Company" be, and is hereby, authorized and empowered to enter upon, purchase, take, and hold any lands or premises that may be necessary or proper for the construction and working of said road, not exceeding in width two hundred feet on each side of the line of its railroad, unless a greater width be required for the purpose of excavation or embankment; and also any lands or premises that may be necessary and proper for turnouts, standing places for cars, depots, station-houses, or any other structures required in the construction and working of said road. And the said company shall have the right to cut and remove trees and other material that might, by falling, encumber its road-bed, though standing or being more than two hundred feet from the line of said road. And in case the owner of such lands or premises and the said company cannot agree as to the value of the premises taken, or to be taken for the use of said road, the value thereof shall be determined by the appraisal of three disinterested commissioners, who may be appointed, upon application by either party, to any court of record in any of the Territories in which the lands or premises to be taken lie; and said commissioners, in their assessment of damages, shall appraise such premises at what would have been the value thereof if the road had not been built. And upon return into court of such appraisement, and upon the payment into the same of the estimated value of the premises taken for the use and benefit of the owner thereof, said premises shall be deemed to be taken by said company, which shall thereby acquire full title to the same for the purpose aforesaid. And either party feeling aggrieved at said appraisement may, within thirty days after the same has been returned into court, file an appeal therefrom, and demand a jury of twelve men to estimate the damage sustained; but such appeal shall not interfere with the rights of said company to enter upon the premises taken, or to do any act necessary and proper in the construction of its road. And said party appealing shall give bonds, with sufficient surety or sureties, for the payment of any cost that may arise upon such appeal; and in case the party appealing does not obtain a verdict, increasing or diminishing, as the case may be, the award of the commissioners, such party shall pay the whole cost incurred by the appellee, as well as his own, and the payment into court, for the use of the owner of said premises taken, of a sum equal to that finally awarded, shall be held to vest in said company the title of said land, and of the right to use and occupy the same for the construction, maintenance, and operation of said road. And in case any of the lands to be taken, as aforesaid, shall be held by any infant, femme covert, non compos, insane person, or persons residing without the Territory within which the lands to be taken lie, or person subjected to any legal disability, the court may appoint a guardian for any party under any disqualification, to appear in proper person, who shall give bonds, with sufficient surety or sureties, for the proper and faithful execution of his

Damages to be determined by commissions.

Procedure.

What proceedings in cases of lands held by any infant or person subject to any legal disability.

trust, and who may represent in court the person disqualified, as aforesaid, from appearing, when the same proceedings shall be had in reference to the appraisement of the premises to be taken for the use of said company, and with the same effect as has been already described; and the title of the company to the lands taken by virtue of this act shall not be affected or impaired by reason of any failure by any guardian to discharge faithfully his trust. And in case any party shall have a right or claim to any land for a term of years, or any interest therein, in possession, reversion, or remainder, the value of any such estate, less than a fee simple, shall be estimated and determined in the manner hereinbefore set forth. And in case it shall be necessary for the company to enter upon any lands which are unoccupied, and of which there is no apparent owner or claimant, it may proceed to take and use the same for the purposes of said railroad, and may institute proceedings, in manner described, for the purpose of ascertaining the value of, and acquiring title to, the same; but the judge of the court hearing said suit shall determine the kind of notice to be served on such owner or owners, and he may in his discretion appoint an agent or guardian to represent such owner or owners in case of his or their incapacity or non-appearance. But in case no claimant shall appear within six years from the time of the opening of said road across any land, all claims to damages against said company shall be barred.

Other proceedings.

Proceedings when lands are unoccupied.

Claims barred if not made within six years.

SEC. 8. *And be it further enacted*, That each and every grant, right, and privilege herein are so made and given to, and accepted by said Northern Pacific Railroad Company, upon and subject to the following conditions, namely: that the said company shall commence the work on said road within two years from the approval of this act by the President, and shall complete not less than fifty miles per year after the second year, and shall construct, equip, furnish, and complete the whole road by the fourth day of July, anno Domini eighteen hundred and seventy-six.

Grants made subject to certain conditions.

Whole road to be completed by July 4, 1876.

Joint res. May 7, 1867, time extended two years; joint res. July 1, 1868, sec. 8; amended.

SEC. 9. *And be it further enacted*, That the United States make the several conditioned grants herein, and that the said Northern Pacific Railroad Company accept the same, upon the further condition that if the said company make any breach of the conditions hereof, and allow the same to continue for upwards of one year, then, in such case, at any time hereafter, the United States, by its Congress, may do any and all acts and things which may be needful and necessary to insure a speedy completion of said road.

Congress may do anything necessary to insure a speedy completion of the road.

SEC. 10. *And be it further enacted*, That all people of the United States shall have the right to subscribe to the stock of the Northern Pacific Railroad Company until the whole capital named in this act of incorporation is taken up, by complying with the terms of subscription; and no mortgage or construction bonds shall ever be issued by said company on said road, or mortgage, or lien made in any way, except by the consent of the Congress of the United States.

All people of the United States may subscribe to the stock, until whole amount is taken up.

No bonds to be issued without consent of Congress.

SEC. 11. *And be it further enacted*, That said Northern Pacific Railroad, or any part thereof, shall be a post-route and a military road, subject to the use of the United States, for postal, military, naval, and all other Government service, and also subject to such regulations as Congress may impose restricting the charges for such Government transportation.

To be a post-route and military road.

Congress may restrict charges for Government transportation.

SEC. 12. *And be it further enacted*, That the acceptance of the terms, conditions, and impositions of this act by the said Northern Pacific Railroad Company shall be signified in writing under the corporate seal of said company, duly executed pursuant to the directions of its board of directors first had and obtained, which acceptance shall be made within two years after the passage of this act, and not afterwards, and shall be served on the President of the United States.

Company to accept terms, conditions, &c., within two years.

SEC. 13. *And be it further enacted*, That the directors of said company shall make an annual report of their proceedings and expenditures, verified by the affidavits of the president and at least six of the directors, and they shall, from time to time, fix, determine, and regulate the fares, tolls, and charges to be received and paid for transportation of persons and property on said road, or any part thereof.

Annual report to be verified by affidavits of president and six directors of company.

SEC. 14. *And be it further enacted*, That the directors chosen in pursuance of the first section of this act shall, as soon as may be after their election, elect from their own number a president and vice-president; and said board of directors shall, from time to time, and as soon as may be after their election, choose a treasurer and secretary, who

Election of president and vice-president from board of directors.

Treasurer and secretary.

shall hold their offices at the will and pleasure of the board of directors. The treasurer and secretary shall give such bonds, with such security as the said board from time to time may require. The secretary shall, before entering upon his duty, be sworn to the faithful discharge thereof, and said oath shall be made a matter of record upon the books of said corporation. No person shall be a director of said company unless he shall be a stockholder, and qualified to vote for directors at the election at which he shall be chosen.

Term of office of president, vice-president, and directors not to exceed three years.

SEC. 15. *And be it further enacted*, That the president, vice-president, and directors shall hold their offices for the period indicated in the by-laws of said company, not exceeding three years, respectively, and until others are chosen in their place, and qualified. In case it shall so happen that an election of directors shall not be made on any day appointed by the by-laws of said company, the corporation shall not for that excuse be deemed to be dissolved, but such election may be holden on any day which shall be appointed by the directors. The directors, of whom seven, including the president, shall be a quorum for the transaction of business, shall have full power to make and prescribe such by-laws, rules, and regulations as they shall deem needful and proper touching the disposition and management of the stock, property, estate, and effects of the company, the transfer of shares, the duties and conduct of their officers and servants touching the election and meeting of the directors, and all matters whatsoever which may appertain to the concerns of said company; and the said board of directors may have full power to fill any vacancy or vacancies that may occur from any cause or causes from time to time in their said board. And the said board of directors shall have power to appoint such engineers, agents, and subordinates as may from time to time be necessary to carry into effect the object of the company, and to do all acts and things touching the location and construction of said road.

Directors empowered to make by-laws, rules, and regulations.

Directors may fill vacancies in board.

Directors empowered to appoint engineers, agents, &c.

Directors to require payment of ten per centum cash assessment, and balance of subscription when needed.

SEC. 16. *And be it further enacted*, That it shall be lawful for the directors of said company to require payment of the sum of ten per centum cash assessment upon all subscriptions received of all subscribers, and the balance thereof at such times and in such proportions and on such conditions as they shall deem to be necessary to complete the said road and telegraph line within the time in this act prescribed. Sixty days' previous notice shall be given of the payments required, and of the time and place of payment, by publishing a notice once a week in one daily newspaper in each of the cities of Boston, New York, Philadelphia, and Chicago; and in case any stockholder shall neglect or refuse to pay, in pursuance of such notice, the stock held by such person shall be forfeited absolutely to the use of the company, and also any payment or payments that shall have been made on account thereof, subject to the condition that the board of directors may allow the redemption on such terms as they may prescribe.

Forfeited stock may be redeemed on terms prescribed by directors.

Company authorized to accept other grants, franchises, &c.

SEC. 17. *And be it further enacted*, That the said company is authorized to accept to its own use any grant, donation, loan, power, franchise, aid, or assistance which may be granted to, or conferred upon said company by the Congress of the United States, by the legislature of any State, or by any corporation, person, or persons; and said corporation is authorized to hold and enjoy any such grant, donation, loan, power, franchise, aid, or assistance, to its own use for the purpose aforesaid.

Consent of State legislatures to be obtained.

SEC. 18. *And be it further enacted*, That said Northern Pacific Railroad Company shall obtain the consent of the legislature of any State through which any portion of said railroad line may pass previous to commencing the construction thereof; but said company may have the right to put on engineers and survey the route before obtaining the consent of the legislature.

Act to be null and void, unless two millions of dollars of stock are subscribed for within two years.

SEC. 19. *And be it further enacted*, That unless said Northern Pacific Railroad Company shall obtain *bona fide* subscriptions to the stock of said company to the amount of two millions of dollars, with ten per centum paid within two years after the passage and approval of this act, it shall be null and void.

Congress may add to, alter, amend, or repeal this act, having due regard for the rights of the company.

SEC. 20. *And be it further enacted*, That the better to accomplish the object of this act, namely, to promote the public interest and welfare by the construction of said railroad and telegraph line, and keeping the same in working order, and to secure to the Government at all times (but particularly in time of war) the use and benefits of the same for postal, military, and other purposes, Congress may, at any time, having due regard for the rights of said Northern Pacific Railroad Company, add to, alter, amend, or repeal this act.

JOINT RESOLUTION OF MAY 7, 1866.

No. 34.—A RESOLUTION extending the time for the completion of the Union Pacific Railway, eastern division and Northern Pacific Railroad. 14 Stat., 355.

* * * * * * *

SEC. 2. *And be it further resolved,* That the time for commencing, and completing the Northern Pacific Railroad, and all its several sections, is extended for the term of two years. Northern Pacific Railroad.

ACT OF JUNE 25, 1868. (*Repealed.*)

AN ACT relative to filing reports of railroad companies. 15 Stat., 79.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the reports required to be made to the Secretary of the Treasury on or before the first day of July of each year, by the corporations created by or entitled to subsidies under the provisions of an act entitled "An act to aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific Ocean, and to secure to the Government the use of the same for postal, military, and other purposes," approved July first, eighteen hundred and sixty-two, and the acts supplemental to and amendatory thereof, shall hereafter be made to the Secretary of the Interior, on or before the first day of October of each year. Said reports shall furnish full and specific information upon the several points mentioned in the twentieth section of the said act of eighteen hundred and sixty-two, and shall be verified as therein prescribed, and on failure to make the same as herein required, the issue of bonds or patents to the company in default shall be suspended until the requirements of this act shall be complied with by such company. And the reports hitherto made to the Secretary of the Treasury under the said act of July first, eighteen hundred and sixty-two, shall be transferred and delivered by him to the Secretary of the Interior to be filled by him.

Reports to the Secretary of the Interior to be made on or before the first day of October of each year by subsidized Pacific railroad companies.

SEC. 2. *And be it further enacted,* That the corporations created by the provisions of the acts of Congress approved July second, eighteen hundred and sixty-four, and July twenty-seventh, eighteen hundred and sixty-six, and known as the Northern Pacific Railroad Company, the Atlantic and Pacific Railroad Company, and the Southern Pacific Railroad Company, shall make reports to the Secretary of the Interior on or before the first of October of each year, as are required to be made by the Union Pacific Railroad and branches, under the provisions of the first section of this act, and on failure so to do, shall be subject to the like suspension.

Northern Pacific, Atlantic and Pacific and Southern Pacific Railroad Companies to report at same time as the Union Pacific Railroad Company.

SEC. 3. *And be it further enacted,* That the reports required from the commissioners appointed to examine and report in relation to the road of any of the corporations whereto reference is made in this act, shall be addressed to and filed in the Department of the Interior; and all such reports heretofore made shall be transferred to and filed in said Department of the Interior; and so much of any and all acts as requires any reports from such companies, or any officers thereof, to be made to the Secretary of the Treasury, is hereby repealed.

Reports of examining commissioners to be addressed to and filed in the Department of the Interior.

SEC. 4. *And be it further enacted,* That, in addition to the eight subjects referred to in section twenty of the act of July, eighteen hundred and sixty-two, to be reported upon, there shall also be furnished annually to the Secretary of the Interior all reports of engineers, superintendents, or other officers who make annual reports to any of said railroad companies.

Annual reports of officers to be furnished annually to the Secretary of the Interior.

(The foregoing act was repealed by act of Congress, approved June 19, 1878, 20 U. S. Stat., 169.)

JOINT RESOLUTION OF JULY 1, 1868.

15 Stat., p. 255. No. 47.—JOINT RESOLUTION extending the time for the completion of the Northern Pacific Railroad.

Be it resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That section eight of an act entitled "An act granting lands to aid in the construction of a railroad and telegraph line from Lake Superior to Puget Sound, on the Pacific coast," is hereby so amended as to read as follows: That each and every grant, right, and privilege herein, are so made and given to and accepted by said Northern Pacific Railroad Company upon and subject to the following conditions, namely: That the said company shall commence the work on said road within two years from and after the second day of July, eighteen hundred and sixty-eight, and shall complete not less than one hundred miles per year after the second year thereafter, and shall construct, equip, furnish, and complete the whole road by the fourth day of July, anno Domini eighteen hundred and seventy-seven.

Section 8, chap. 217, 13 Stat., 370, amended.

Time extended to July 4, 1879. (See res. of May 7, 1866, 14 Stat., 355.)

JOINT RESOLUTION OF MARCH 1, 1869.

15 Stat., 346. 13 Stat., 370. No. 15.—JOINT RESOLUTION gra[n]ting the Consent of Congress provided for in section ten of the Act incorporating the Northern Pacific Railroad Company, approved July second, eighteen hundred and sixty-four.

Be it resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the consent of the Congress of the United States is hereby given to the Northern Pacific Railroad Company to issue its bonds, and to secure the same by mortgage upon its railroad and its telegraph line, for the purpose of raising funds with which to construct said railroad and telegraph line between Lake Superior and Puget Sound, and also upon its branch to a point at or near Portland, Oregon; and the term "Puget Sound," as used here and in the act incorporating said company, is hereby construed to mean all the waters connected with the Straits of Juan de Fuca within the territory of the United States.

Consent of Congress given to issue mortgage bonds for construction purposes.

Meaning of term "Puget Sound."

JOINT RESOLUTION OF APRIL 10, 1869.

16 Stat., 57. No. 20.—JOINT RESOLUTION granting Right of Way for the Construction of a Railroad from a Point at or near Portland, Oregon, to a Point west of the Cascade Mountains, in Washington Territory.

Be it resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the Northern Pacific Railroad Company be, and hereby is, authorized to extend its branch line from a point at or near Portland, Oregon, to some suitable point on Puget Sound, to be determined by said company, and also to connect the same with its main line west of the Cascade mountains, in the Territory of Washington; said extension being subject to all the conditions and provisions, and said company in respect thereto being entitled to all the rights and privileges conferred by the act incorporating said company, and all acts additional to and amendatory thereof: *Provided*, That said company shall not be entitled to any subsidy in money, bonds, or additional lands of the United States, in respect to said extension of its branch line as aforesaid, except such lands as may be included in the right of way on the line of such extension as it may be located: *And provided further*, That at least twenty-five miles of said extension shall be constructed before the second day of July, eighteen hundred and seventy-one, and forty miles per year thereafter until the whole of said extension shall be completed.

Company authorized to extend its branch line from Portland to Puget Sound.

Not entitled hereby to any subsidy or additional lands.

RESOLUTION OF MAY 31, 1870.

No. 67.—A RESOLUTION authorizing the Northern Pacific Railroad Company to issue its Bonds for the Construction of its road and to secure the same by Mortgage, and for other Purposes. 16 Stat., 378.

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the Northern Pacific Railroad Company be, and hereby is, authorized to issue its bonds to aid in the construction and equipment of its road, and to secure the same by mortgage on its property and rights of property of all kinds and descriptions, real, personal, and mixed, including its franchises as a corporation; and, as proof and notice of its legal execution and effectual delivery, said mortgage shall be filed and recorded in the office of the Secretary of the Interior; and also to locate and construct, under the provisions and with the privileges, grants, and duties provided for in its act of incorporation, its main road to some point on Puget Sound, via the valley of the Columbia River, with the right to locate and construct its branch from some convenient point on its main trunk line across the Cascade Mountains to Puget Sound; and in the event of there not being in any State or Territory in which said main line or branch may be located, at the time of the final location thereof, the amount of lands per mile granted by Congress to said company, within the limits prescribed by its charter, then said company shall be entitled, under the directions of the Secretary of the Interior, to receive so many sections of land belonging to the United States, and designated by odd numbers, in such State or Territory, within ten miles on each side of said road, beyond the limits prescribed in said charter, as will make up such deficiency, on said main line or branch, except mineral and other lands as exempted in the charter of said company of eighteen hundred and sixty-four, to the amount of the lands that have been granted, sold, reserved, occupied by homestead settlers, pre-empted, or otherwise disposed of subsequent to the passage of the act of July two, eighteen hundred and sixty-four, and that twenty-five miles of said main line between its western terminus and the city of Portland, in the State of Oregon, shall be completed by the first day of January, anno Domini eighteen hundred and seventy-two, and forty miles of the remaining portion thereof each year thereafter until the whole shall be completed between said points: *Provided,* That all lands hereby granted to said company which shall not be sold or disposed of or remain subject to the mortgage by this act authorized, at the expiration of five years after the completion of the entire road, shall be subject to settlement and preëmption like other lands, at a price to be paid to said company not exceeding two dollars and fifty cents per acre; and if the mortgage hereby authorized shall at any time be enforced by foreclosure or other legal proceeding, or the mortgaged lands hereby granted, or any of them, be sold by the trustees to whom such mortgage may be executed, either at its maturity or for any failure or default of said company under the terms thereof, such lands shall be sold at public sale, at places within the States and Territories in which they shall be situate, after not less than sixty days previous notice, in single sections or subdivisions thereof, to the highest and best bidder: *Provided further,* That in the construction of the said railroad, American iron or steel only shall be used, the same to be manufactured from American ores exclusively.

Authorized to issue mortgage bonds for construction and equipment of road.

Mortgage to be filed and recorded in the office of the Secretary of the Interior.

Authorized to locate its main road via Columbia River, with a branch across the Cascade Mountains to Puget Sound.

Limits within which indemnity lands may be obtained increased ten miles, being sixty miles on each side of the road.

Company's lands unsold and not mortgaged subject to settlement at not over $2.50 per acre five years after completion of the entire road.

American iron or steel, manufactured from American ores exclusively, shall only be used.

SEC. 2. *And be it further resolved,* That Congress may at any time alter or amend this joint resolution, having due regard to the rights of said company and any other parties.

Congress reserves the right to alter or amend.

LAWS RELATING TO THE ATLANTIC AND PACIFIC RAILROAD.

ACT OF JULY 27, 1866.

14 Stat., 292. AN ACT granting Lands to aid in the Construction of a Railroad and Telegraph Line from the States of Missouri and Arkansas to the Pacific Coast.

Atlantic and Pacific Railroad Company incorporated.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That John B. Brown, Anson P. Morrill, Samuel F. Hersey, William G. Crosby, Samuel E. Spring, Samuel P. Dinsmore, of Maine; * * * and all such other persons who shall or may be associated with them, and their successors, are hereby created and erected into a body corporate and politic, in deed and in law, by the name, style, and title of the "Atlantic and Pacific Railroad Company," and by that name shall have perpetual succession, and shall be able to sue and be sued, plead and be impleaded, defend and be defended, in all courts of law and equity within the United States, and may make and have a common seal. And said corporation is hereby authorized and empowered to lay out, locate, and construct, furnish, maintain, and enjoy, a continuous railroad and telegraph line, with the appurtenances, namely: Beginning at or near the town of Springfield, in the State of Missouri, thence to the western boundary line of said State, and thence by the most eligible railroad route as shall be determined by said company to a point on the Canadian River, thence to the town of Albuquerque, on the River Del Norte, and thence by way of the Agua Frio, or other suitable pass, to the head waters of the Colorado Chiquito, and thence, along the thirty-fifth parallel of latitude as near as may be found most suitable for a railway route, to the Colorado River, at such point as may be *be* selected by said company for crossing; thence, by the most practicable and eligible route, to the Pacific. The said company shall have the right to construct a branch from the point at which the road strikes the Canadian River eastwardly, along the most suitable route as selected, to a point in the western boundary line of Arkansas, at or near the town of Van Buren. And the said company is hereby vested with all the powers, privileges, and immunities necessary to carry into effect the purposes of this act, as herein set forth. The capital stock of said company shall consist of one million shares of one hundred dollars each, which shall in all respects be deemed personal property, and shall be transferable in such manner as the laws of said corporation shall provide. The persons hereinbefore named are hereby appointed commissioners, and shall be called the board of commissioners of the "Atlantic and Pacific Railroad Company," and fifteen shall constitute a quorum for the transaction of business. The first meeting of said board of commissioners shall be held at the Turner Hall, in the city of Saint Louis, on the first day of October, anno Domini eighteen hundred and sixty-six, or at such time within three months thereafter as any ten commissioners herein named from Missouri shall appoint, notice of which shall be given by them to the other commissioners by publishing said notice in at least one daily newspaper in the cities of Boston, New York, Cincinnati, Saint Louis, Memphis, and Nashville, once a week for at least four weeks previous to the day of meeting. Said board shall organize by the choice from its number of a president, vice-president, secretary, and treasurer, and they shall require from said treasurer such bonds as may be deemed proper, and may from time to time increase the amount thereof, as they may deem proper. The secretary shall be sworn to the faithful performance of his duties, and such oath shall be entered upon the records of the company, signed by him, and the oath verified thereon. The president and secretary of said boards shall, in like manner, call other meetings, naming the time and place thereof. It shall be the duty of said board of commissioners to open books, or cause books to be opened, at such times and in such principal cities or other places in the United States as they or a quorum of them shall determine, within twelve months after the passage of this act, to receive subscriptions to the capital stock of said corporation, and a cash payment of ten per centum on all subscriptions, and to receipt therefor. So soon as ten thousand shares shall in good faith be subscribed for, and ten dollars per share actually paid into the treasury of the company, the said president and secretary of said board of com-

Name.

Empowered to lay out, construct, and enjoy a continuous railroad and telegraph line.

From Springfield, Mo., via Albuquerque, N. Mex., along the 35th parallel of latitude, to the Pacific.

Right to construct a branch from Canadian River to a point near Van Buren, Ark.

Capital stock, $100,000,000.

Board of commissioners appointed.

First meeting of commissioners to be held in St. Louis, Mo.

Organization of board.

President and secretary to call other meetings.

Duty of the board of commissioners to open books for subscriptions to stock.

missioners shall appoint a time and place for the first meeting of the subscribers to the stock of said company, and shall give notice thereof in at least one newspaper in each State in which subscription books have been opened, at least fifteen days previous to the day of meeting, and such subscribers as shall attend the meeting so called, either in person or by lawful proxy, then and there shall elect, by ballot, thirteen directors for said corporation; and in such election each share of said capital stock shall entitle the owner thereof to one vote. The president and secretary of the board of commissioners, and in case of their absence or inability any two of the officers of said board, shall act as inspectors of said election, and shall certify, under their hands, the names of the directors elected at said meeting. And the said commissioners, treasurer, and the secretary shall then deliver over to said directors all the moneys, properties, subscription books, and other books in their possession, and thereupon the duties of said commissioners and the officers previously appointed by them shall cease and determine forever, and thereafter the stockholders shall constitute said body politic and corporate. Annual meetings of the stockholders of the said corporation for the choice of officers (when they are to be chosen), and for the transaction of business, shall be holden at such time and place and upon such notice as may be prescribed in the by-laws.

First meeting of subscribers to stock.

Thirteen directors to be elected by stockholders.

Commissioners to deliver over to the directors all the moneys, properties, books, &c.

Annual meetings of stockholders.

SEC. 2. *And be it further enacted*, That the right of way through the public lands be, and the same is hereby, granted to the said Atlantic and Pacific Railroad Company, its successors and assigns, for the construction of a railroad and telegraph as proposed; and the right, power, and authority is hereby given to said corporation to take from the public lands adjacent to the line of said road material of earth, stone, timber, and so forth, for the construction thereof. Said way is granted to said railroad to the extent of one hundred feet in width on each side of said railroad where it may pass through the public domain, including all necessary grounds for station-buildings, workshops, depots, machine-shops, switches, side-tracks, turn tables, and water-stations; and the right of way shall be exempt from taxation within the Territories of the United States. The United States shall extinguish, as rapidly as may be consistent with public policy and the welfare of the Indians, and only by their voluntary cession, the Indian title to all lands falling under the operation of this act and acquired in the donation of the road named in the act.

Grant of right of way.

Authority to take from adjacent lands materials for construction.

Right of way 100 feet in width on each side of said railroad.

Right of way exempt from taxation.

Indian titles to be extinguished by the United States.

SEC. 3. *And be it further enacted*, That there be, and hereby is, granted to the Atlantic and Pacific Railroad Company, its successors and assigns, for the purpose of aiding in the construction of said railroad and telegraph line to the Pacific Coast, and to secure the safe and speedy transportation of the mails, troops, munitions of war, and public stores, over the route of said line of railway and its branches, every alternate section of public land, not mineral, designated by odd numbers, to the amount of twenty alternate sections per mile, on each side of said railroad line, as said company may adopt, through the Territories of the United States, and ten alternate sections of land per mile on each side of said railroad whenever it passes through any State, and whenever, on the line thereof, the United States have full title, not reserved, sold, granted, or otherwise appropriated, and free from pre-emption or other claims or rights, at the time the line of said road is designated by a plat thereof, filed in the office of the commissioner of the General Land Office; and whenever, prior to said time, any of said sections or parts of sections shall have been granted, sold, reserved, occupied by homestead settlers, or pre-empted, or otherwise disposed of, other lands shall be selected by said company in lieu thereof, under the direction of the Secretary of the Interior, in alternate sections, and designated by odd numbers, not more than ten miles beyond the limits of said alternate sections, and not including the reserved numbers: *Provided*, That if said route shall be found upon the line of any other railroad route, to aid in the construction of which lands have been heretofore granted by the United States, as far as the routes are upon the same general line, the amount of land heretofore granted shall be deducted from the amount granted by this act: *Provided further*, That the railroad company receiving the previous grant of land may assign their interest to said "Atlantic and Pacific Railroad Company," or may consolidate, confederate, and associate with said company upon the terms named in the first and seventeenth sections of this act: *Provided further*, That all mineral lands be, and the same are hereby, excluded

Grant of lands

Forty sections per mile in the Territories.

Twenty sections per mile in the States.

Other lands may be selected in lieu of those reserved.

Land limits.

If route is upon the line of any other aided road former grant shall be deducted.

Road having previous grant may assign.

"Mineral" lands not granted.

Agricultural lands in lieu of mineral lands.

from the operations of this act, and in lieu thereof a like quantity of unoccupied and unappropriated agricultural lands in odd-numbered sections nearest to the line of said road, and within twenty miles thereof, may be selected as above provided: *And provided further*, That the word "mineral," when it occurs in this act, shall not be held to include iron or coal: *And provided further*, That no money shall be drawn from the Treasury of the United States to aid in the construction of the said "Atlantic and Pacific Railroad."

"Mineral" does not include iron or coal.

SEC. 4. *And be it further enacted*, That whenever said Atlantic and Pacific Railroad Company shall have twenty-five consecutive miles of any portion of said railroad and telegraph line ready for the service contemplated, the President of the United States shall appoint three commissioners to examine the same, who shall be paid a reasonable compensation for their services by the company, to be determined by the Secretary of the Interior; and if it shall appear that twenty-five consecutive miles of said road and telegraph line have been completed in a good, substantial and workman-like manner, as in all other respects required by this act, the commissioners shall so report under oath, to the President of the United States, and patents of lands, as aforesaid, shall be issued to said company, confirming to said company the right and title to said lands situated opposite to and coterminous with said completed section of said road. And from time to time, wenever twenty-five additional consecutive miles shall have been constructed, completed, and in readiness as aforesaid, and verified by said commissioners to the President of the United States, then patents shall be issued to said company conveying the additional sections of land as aforesaid, and so on as fast as every twenty-five miles of said road is completed as aforesaid.

The President to appoint three Commissioners to examite road.

Commissioners to report, *under oath*, to the President.

SEC. 5. *And be it further enacted*, That said Atlantic and Pacific Railroad shall be constructed in a substantial and workman-like manner, with all the necessary draws, culverts, bridges, viaducts, crossings, turn-outs, stations and watering-places, and all other appurtenances, including furniture and rolling-stock, equal in all respects to railroads of the first-class when prepared for business, with rails of the best quality, manufactured from American iron. And a uniform gauge shall be established throughout the entire length of the road. And thereshall be constructed a telegraph line, of the most substantial and approved description, to be operated along the entire line: *Provided*, That the said company shall not charge the Government higher rates than they do individuals for like transportation and telegraphic service. And it shall be the duty of the Atlantic and Pacific Railroad Company to permit any other railroad which shall be authorized to be built by the United States, or by the legislature of any Territory or State in which the same may be situated, to form running connections with it, on fair and equitable terms.

Road to be constructed as a "first-class" railroad.

Rails to be of American iron.

Gauge to be uniform.

Telegraph line.

Condition as to charges for Government transportation and telegraphic service.

Other roads may form running connections on equitable terms.

SEC. 6. *And be it further enacted*, That the President of the United States shall cause the lands to be surveyed for forty miles in width on both sides of the entire line of said road after the general route shall be fixed, and as fast as may be required by the construction of said railroad; and the odd sections of land hereby granted shall not be liable to sale or entry, or pre-emption, before or after they are surveyed, except by said company, as provided in this act; but the provision of the act of September, eighteen hundred and forty-one, granting pre-emption rights, and the act amendatory thereof, and of the act entitled "An act to secure homesteads to actual settlers on the public domain," approved May twenty, eighteen hundred and sixty-two, shall be, and the same are hereby, extended to all other lands on the line of said road when surveyed, excepting those hereby granted to said company.

Lands to be surveyed as fast as construction of road may require.

SEC. 7. *And be it further enacted*, That the said Atlantic and Pacific Railroad Company be, and is hereby, authorized and empowered to enter upon, purchase, take and hold any lands or premises that may be necessary and proper for the construction and working of said road, not exceeding in width one hundred feet on each side of the line of its railroad, unless a greater width be required for the purposes of excavation or embankment; and also any lands or premises that may be necessary and proper for turn-outs, standing places for cars, depots, station-houses, or any other structures required in the construction and working of said road. And the said company shall have the right to cut and remove trees and other material that might, by falling, incum-

Authorizes company to take any lands necessary for construction of its road.

100 feet on each id e.

Lands for turnouts, depots, &c.

ber its road-bed, though standing or being more than two hundred feet from the line of said road. And in case the owner of such lands or premises and the said company cannot agree as to the value of the premises taken, or to be taken, for the use of said road, the value thereof shall be determined by the appraisal of three disinterested commissioners, who may be appointed upon application by either party to any court of record in any of the Territories in which the lands or premises to be taken lie; and said commissioners, in their assessment of damages, shall appraise such premises at what would have been the value thereof if the road had not been built. And upon return into court of such appraisement, and upon the payment into the same of the estimated value of the premises taken for the use and benefit of the owner thereof, said premises shall be deemed to be taken by said company, which shall thereby acquire full title to the same for the purposes aforesaid. And either party feeling aggrieved at said appraisement may, within thirty days after the same has been returned into court, file an appeal therefrom, and demand a jury of twelve men to estimate the damage sustained; but such appeal shall not interfere with the rights of said company to enter upon the premises taken, or to do any act necessary and proper in the construction of its road. And said party appealing shall give bonds, with sufficient surety or sureties, for the payment of any cost that may arise upon such appeal; and in case the party appealing does not obtain a verdict more favorable, such party shall pay the whole cost incurred by the appellee, as well as his own, and the payment into court, for the use of the owner of said premises taken, at a sum equal to that finally awarded, shall be held to vest in said company the title of said land, and the right to use and occupy the same for the construction, maintenance, and operation of said road. And in case any of the lands to be taken as aforesaid shall be held by an infant, femme covert, non compos, insane person, or persons residing without the territory within which the lands to be taken lie, or persons subjected to any legal disability, the court may appoint a guardian, for any party under disqualification, to appear in proper person, who shall give bonds, with sufficient surety or sureties, for the proper and faithful execution of his trust, and who may represent in court the person disqualified, as aforesaid, from appearing when the same proceedings shall be had in reference to the appraisement of the premises to be taken for the use of said company, and with the same effect as has been already described: and the title of the company to the lands taken by virtue of this act shall not be affected or impaired by reason of any failure by any guardian to discharge faithfully his trust. And in case any party shall have a right or claim to any land for a term of years, or any interest therein, in posession reversion, or remainder, the value of any such estate, less than a fee simple, shall be estimated and determined in the manner hereinbefore set forth. And in case it shall be necessary for the company to enter upon any lands which are unoccupied, and of which there is no apparent owner or claimant, it may proceed to take and use the same for the purposes of said railroad, and may institute proceedings, in manner described, for the purpose of ascertaining the value of and of acquiring a title to, the same; but the judge of the court hearing said suit shall determine the kinds of notice to be served on such owner or owners, and he may in his discretion appoint an agent or guardian to represent such owner or owners in case of his or their incapacity or non-appearance. But in case no claimant shall appear within six years from the time of the opening of said road across any land, all claims to damages against said company shall be barred.

Damages to be determined by commissioners.

Procedure.

What proceedings in cases of lands held by any persons subject to any legal disability.

Other proceedings.

Proceedings when lands are unoccupied.

Claims barred if not made within six years.

SEC. 8. *And be it further enacted*, That each and every grant, right, and privilege herein are so made and given to and accepted by said Atlantic and Pacific Railroad Company, upon and subject to the following conditions, namely: That the said company shall commence the work on said road within two years from the approval of this act by the President, and shall complete not less than fifty miles per year after the second year, and shall construct, equip, furnish, and complete the main line of the whole road by the fourth day of July, anno Domini eighteen hundred and seventy-eight.

Grants made subject to certain conditions.

Whole road to be completed by July 4, 1878.

SEC. 9. *And be it further enacted*, That the United States make the several conditional grants herein, and that the said Atlantic and Pacific Railroad Company accept the same, upon the further condition that if the said company make any breach of the conditions hereof, and allow

Congress may do anything necessary to insure a speedy completion of the road.

the same to continue for upwards of one year, then, in such case, at any time hereafter, the United States may do any and all acts and things which may be needful and necessary to insure a speedy completion of the said road.

All people of the United States may subscribe to the stock until whole amount is taken up.

SEC. 10. *And be it further enacted*, That all people of the United States shall have the right to subscribe to the stock of the Atlantic and Pacific Railroad Company until the whole capital named in this act of incorporation is taken up by complying with the terms of subscription.

To be a post-route and military road.

SEC. 11. *And be it further enacted*, That said Atlantic and Pacific Railroad, or any part thereof, shall be a post-route and military road, subject to the use of the United States for postal, military, naval, and all other Government service, and also subject to such regulations as Congress may impose restricting the charges for such Government transportation.

Congress may restrict charges for Government transportation.

Company to accept terms, conditions, &c., within two years.

SEC. 12. *And be it further enacted*, That the acceptance of the terms, conditions, and impositions of this act by the said Atlantic and Pacific Railroad Company shall be signified in writing under the corporate seal of said company, duly executed pursuant to the direction of its board of directors first had and obtained, which acceptance shall be made within two years after the passage of this act, and not afterwards, and shall be deposited in the office of the Secretary of the Interior.

Annual report to be verified by affidavits of president and six directors of company.

SEC. 13. *And be it further enacted*, That the directors of said company shall make and publish an annual report of their proceedings and expenditures, verified by the affidavits of the president and at least six of the directors, a copy of which shall be deposited in the office of said Secretary of the Interior, and they shall, from time to time, fix, determine, and regulate the fares, tolls, and charges to be received and paid for transportation of persons and property on said road, or any part thereof.

Election of president and vice-president from board of directors.

Treasurer and secretary.

SEC. 14. *And be it further enacted*, That the directors chosen in pursuance of the first section of this act shall so soon as may be after their election, elect from their own number a president and vice-president; and said board of directors shall, from time to time, and so soon as may be after their election, choose a treasurer and secretary, who shall hold their offices at the will and pleasure of the board of directors. The treasurer and secretary shall give such bonds, with such security as the said board from time to time may require. The secretary shall, before entering upon his duty, be sworn to the faithful discharge thereof, and said oath shall be made a matter of record upon the books of said corporation. No person shall be a director of said company unless he shall be a stockholder, and qualified to vote for directors at the election at which he shall be chosen.

Term of office of president, vice-president, and directors not to exceed three years.

SEC. 15. *And be it further enacted*, That the president, vice-president, and directors shall hold their offices for the period indicated in the by-laws of said company, not exceeding three years, respectively, and until others are chosen in their place, and qualified. In case it shall so happen that an election of directors shall not be made on any day appointed by the by-laws of said company, the corporation shall not for that excuse be deemed to be dissolved, but such election may be holden on any day which shall be appointed by the directors. The directors, of whom seven, including the president, shall be a quorum for the transaction of business, shall have full power to make and prescribe such by-laws, rules, and regulations as they shall deem needful and proper touching the disposition and management of stock, property, estate, and effects of the company, the transfer of shares, the duties and conduct of their officers and servants touching the election and meeting of the directors, and all matters whatsoever which may appertain to the concerns of said company; and the said board of directors may have full power to fill any vacancy or vacancies that may occur from any cause or causes from time to time in their said board. And the said board of directors shall have power to appoint such engineers, agents, and subordinates as may from time to time be necessary to carry into effect the object of the company, and to do all acts and things touching the location and construction of said road.

Directors empowered to make by-laws, rules, and regulations.

Directors may fill vacancies in board.

Directors empowered to appoint engineers, agents, &c.

Directors to require payment of ten per centum, cash assessment, and balance of subscriptions when needed.

SEC. 16. *And be it further enacted*, That it shall be lawful for the directors of said company to require payment of the sum of ten per centum cash assessment upon all subscriptions received of all subscribers, and the balance thereof at such times and in such proportion and on such conditions as they shall deem to be necessary to complete the said road and telegraph lines within the time in this act prescribed. Sixty days'

previous notice shall be given of the payments required, and of the time and place of payment, by publishing a notice once a week in one daily newspaper in each of the cities of Boston, New York, Cincinnati, St. Louis, Memphis, and Nashville, and in case any stockholder shall neglect or refuse to pay, in pursuance of such notice, the stock held by such person shall be forfeited absolutely to the use of the company, and also any payment or payments that shall have been made on account thereof, subject to the condition that the board of directors may allow the redemption on such terms as they may prescribe.

Forfeited stock may be redeemed on terms prescribed by directors.

SEC. 17. *And be it further enacted*, That the said company is authorized to accept to its own use any grant, donation, loan, power, franchise, aid, or assistance which may be granted to or conferred on said company by the Congress of the United States, by the legislature of any State, or by any corporation, person, or persons, or by any Indian tribe or nation through whose reservation the road herein provided for may pass; and said corporation is authorized to hold and enjoy any such grant, donation, loan, power, franchise, aid, or assistance, to its own use, for the purpose aforesaid: *Provided*, That any such grant or donation, power, aid, or assistance from any Indian tribe or nation shall be subject to the approval of the President of the United States.

Company authorized to accept other grants, franchises, &c.

Grant from any Indian tribe to be subject to the approval of the President.

SEC. 18. *And be it further enacted*, That the Southern Pacific Railroad, a company incorporated under the laws of the State of California, is hereby authorized to connect with the said Atlantic and Pacific Railroad, formed under this act, at such point, near the boundary line of the State of California, as they shall deem most suitable for a railroad line to San Francisco, and shall have a uniform gauge and rate of freight or fare with said road; and in consideration thereof, to aid in its construction, shall have similar grants of land, subject to all the conditions and limitations herein provided, and shall be required to construct its road on the like regulations, as to time and manner, with the Atlantic and Pacific Railroad herein provided for.

Southern Pacific may connect with the Atlantic and Pacific Road.

Point of connection to be near the boundary line of California.

Uniform gauge and rate of freight and fare.

Shall have similar grants of land, &c.

SEC. 19. *And be it further enacted*, That unless the said Atlantic and Pacific Railroad Company shall obtain bona fide subscriptions to the stock of said company to the amount of one million of dollars, with ten per centum paid, within two years after the passage of and approval of this act, it shall be null and void.

This act to be null and void, unless one million of dollars of stock are subscribed for within two years.

SEC. 20. *And be it further enacted*, That the better to accomplish the object of this act, namely, to promote the public interest and welfare by the construction of said railroad and telegraph line, and keeping the same in working order, and to secure to the Government at all times, but particularly in time of war, the use and benefits of the same for postal, military, and other purposes, Congress may, at any time, having due regard for the rights of said Atlantic and Pacific Railroad Company, add to, alter, amend, or repeal this act.

Congress may add to, alter, amend, or repeal this act, having due regard for the rights of the company.

SEC. 21.* *And be it further enacted*, That whenever in any grant of land or other subsidies, made or hereafter to be made, to railroads or other corporations, the United States has reserved the right, or shall reserve it, to appoint directors, engineers, commissioners, or other agents to examine said roads, or act in conjunction with other officers of said company or companies, all the costs, charges, and pay of said directors, engineers, commissioners, or agents, shall be paid by the respective companies. Said directors, engineers, commissioners, or agents shall be paid for said services the sum of ten dollars per day, for each and every day actually and necessarily employed, and ten cents per mile for each and every mile actually and necessarily traveled, in discharging the duties required of them, which per diem and mileage shall be in full compensation for said services. And in case any company shall refuse or neglect to make such payments, no more patents for land or other subsidies shall be issued to said company until these requirements are complied with.

Compensation of directors, engineers, commissioners, &c., to be paid by railroad companies.

Ten dollars per day and ten cents per mile.

If company neglects to make such payments, patents for lands not to be issued.

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*This section has been incorporated in the Revised Statutes as section 5259.

ACT OF APRIL 20, 1871.

AN ACT to enable the Atlantic and Pacific Railroad Company to mortgage its road. 17 Stat., 19.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Atlantic and Pacific Railroad Company, organized under act of Congress of July twenty-seven, eighteen hundred and sixty-six, is hereby authorized to make and issue its bonds in such form and manner, and for such sums, payable at such times, and bearing such rate of interest, and to dispose of them on such terms as its directors may deem advisable; and to secure said bonds, the said company may mortgage its road, equipment, lands, franchises, privileges, and other rights and property, subject to such terms, conditions, and limitations as its directors may prescribe. As proof and notice of the legal execution and effectual delivery of any mortgage hereafter made by said company, it shall be filed and recorded in the office of the Secretary of the Interior: *Provided*, That if the company shall hereafter suffer any breach of the conditions of the act above referred to, under which it is organized, the rights of those claiming under any mortgage made by the company to the lands granted to it by said act shall extend only to so much thereof as shall be coterminous with or appertaining to that part of said road which shall have been constructed at the time of the foreclosure of said mortgage.

The Atlantic and Pacific Railroad Company authorized to issue its bonds.

Road, equipment, lands, franchises, &c., may be mortgaged to secure the bonds.

Mortgage to be filed and recorded in the office of the Secretary of the Interior.

Breach of conditions of organic act will affect those claiming under any foreclosures of the mortgage.

ACT OF JULY 6, 1886.

24 Stat., 123. AN ACT to forfeit the lands granted to the Atlantic and Pacific Railroad Company to aid in the construction of a railroad and telegraph line from the States of Missouri and Arkansas to the Pacific coast, and to restore the same to settlement and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That all the lands, excepting the right of way and the right, power, and authority given to said corporation to take from the public lands adjacent to the line of said road material of earth, stone, timber, and so forth, for the construction thereof, including all necessary grounds for station buildings, workshops, depots, machine-shops, switches, side-tracks, turn-tables, and water-stations, heretofore granted to the Atlantic and Pacific Railroad Company by an act entitled "An act granting lands to aid in the construction of a railroad and telegraph line from the States of Missouri and Arkansas to the Pacic coast," approved July twenty-seventh, eighteen hundred and sixty-six, and subsequent acts and joint resolutions of Congress, which are adjacent to and coterminous with the uncompleted portions of the main line of said road, embraced within both the granted and indemnity limits, as contemplated to be constructed under and by the provisions of the said act of July twenty seventh, eighteen hundred and sixty-six, and acts and joint resolutions subsequent thereto and relating to the construction of said road and telegraph, be and the same are hereby, declared forfeited and restored to the public domain.

Atlantic and Pacific Railroad Company.

Forfeiture of grant of lands adjacent to uncompleted portion of road, except right of way, etc.

Vol. 14, p. 292.

LAWS RELATING TO THE CALIFORNIA AND OREGON, AND THE OREGON AND CALIFORNIA RAILROADS.

ACT OF JULY 25, 1866.

14 Stat., 239. AN ACT granting lands to aid in the construction of a railroad and telegraph line from the Central Pacific Railroad, in California, to Portland, in Oregon.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the "California and Oregon Railroad Company," organized under an act of the State of California, to protect certain parties in and to a railroad survey, "to con-

The California and Oregon R. R. Co. of California and an Oregon

nect Portland, in Oregon, with Marysville, in California," approved April sixth, eighteen hundred and sixty-three, and such company organized under the laws of Oregon as the legislature of said State shall hereafter designate, be, and they are hereby, authorized and empowered to lay out, locate, construct, finish, and maintain a railroad and telegraph line between the city of Portland, in Oregon, and the Central Pacific Railroad, in California, in the manner following, to wit: The said California and Oregon Railroad Company, to construct that part of the said railroad and telegraph within the State of California, beginning at some point (to be selected by said company) on the Central Pacific Railroad in the Sacramento Valley, in the State of California, and running thence northerly, through the Sacramento and Shasta Valleys, to the northern boundary of the State of California; and the said Oregon company to construct that part of the said railroad and telegraph line within the State of Oregon, beginning at the city of Portland, in Oregon, and running thence southerly through the Willamette, Umpqua, and Rogue River valleys to the southern boundary of Oregon, where the same shall connect with the part aforesaid to be made by the first-named company: *Provided*, That the company completing its respective part of the said railroad and telegraph from either of the termini herein named to the line between California and Oregon before the other company shall have likewise arrived at the same line, shall have the right, and the said company is hereby authorized, to continue in constructing the same beyond the line aforesaid, with the consent of the State in which the unfinished part may lie, upon the terms mentioned in this act, until the said parts shall meet and connect, and the whole line of said railroad and telegraph shall be completed.

company empowered to lacate and construct a railroad and telegraph line between Portland, Oreg., and the Central Pacific Railroad in California.

The California company to construct road to northern boundary of State.

The Oregon company to construct the road to the southern boundary of Oregon.

The company first completing its part may continue its road with consent of State.

SEC. 2. *And be it further enacted*, That there be, and hereby is, granted to the said companies, their successors and assigns, for the purpose of aiding in the construction of said railroad and telegraph line, and to secure the safe and speedy transportation of the mails, troops, munitions of war, and public stores over the line of said railroad, every alternate section of public land, not mineral, designated by odd numbers, to the amount of twenty alternate sections per mile (ten on each side) of said railroad line; and when any of said alternate sections or parts of sections shall be found to have been granted, sold, reserved, occupied by homestead settlers, pre-empted, or otherwise disposed of, other lands, designated as aforesaid, shall be selected by said companies in lieu thereof, under the direction of the Secretary of the Interior, in alternate sections designated by odd numbers as aforesaid, nearest to and not more than ten miles beyond the limits of said first-named alternate sections; and as soon as the said companies, or either of them, shall file in the office of the Secretary of the Interior a map of the survey of said railroad, or any portion thereof, not less than sixty continuous miles from either terminus, the Secretary of the Interior shall withdraw from sale public lands herein granted on each side of said railroad, so far as located and within the limits before specified. The lands herein granted shall be applied to the building of said road within the States, respectively, wherein they are situated. And the sections and parts of sections of land which shall remain in the United States within the limits of the aforesaid grant shall not be sold for less than double the minimum price of public lands when sold: *Provided*, That bona fide and actual settlers under the pre-emption laws of the United States may, after due proof of settlement, improvement, and occupation, as now provided by law, purchase the same at the price fixed for said lands at the date of such settlement, improvement, and occupation: *And provided also*, That, settlers under the provisions of the homestead act, who comply with the terms and requirements of said act, shall be entitled, within the limits of said grant, to patents for an amount not exceeding eighty acres of the land so reserved by the United States, anything in this act to the contrary notwithstanding.

Grant of land.

Twenty sections per mile.

If any sections of land have been sold, or are occupied, other lands may be selected in lieu thereof.

Limits, 10 miles beyond grant.

When maps of surveys are filed lands to be withdrawn from sale.

Lands granted to be applied to building road in the States where they lie.

Remaining lands to be sold, for what price.

Settlers under pre-emption laws may purchase, at what price, &c.

Under homestead act may have not over 80 acres.

SEC. 3. *And be it further enacted*, That the right of way through the public lands be, and the same is hereby, granted to said companies for the construction of said railroad and telegraph line; and the right, power, and authority are hereby given to said companies to take from the public lands adjacent to the line of said road, earth, stone, timber, water, and other materials for the construction thereof. Said right of way is granted to said railroad to the extent of one hundred feet in width on each side of said railroad where it may pass over the public lands, including all necessary grounds for stations, buildings, work-

Grant of right of way.

Materials for construction from adjacent lands.

Rights of way 100 feet on each side of said railroad.

Lands for stations, &c.

shops, depots, machine-shops, switches, side-tracks, turn-tables, water-stations, or any other structures required in the construction and operating of said road.

The President to appoint 3 commissioners to examine road.

SEC. 4. *And be it further enacted*, That whenever the said companies, or either of them, shall have twenty or more consecutive miles of any portion of said railroad and telegraph line ready for the service contemplated by this act, the President of the United States shall appoint three commissioners, whose compensation shall be paid by said company, to examine the same, and if it shall appear that twenty consecutive miles of railroad and telegraph shall have been completed and equipped in all respects as required by this act, the said commissioners shall so report under oath to the President of the United States, and thereupon patents shall issue to said companies, or either of them, as the case may be, for the lands hereinbefore granted, to the extent of and coterminous with the completed section of said railroad and telegraph line as aforesaid; and from time to time, whenever twenty or more consecutive miles of the said road and telegraph shall be completed and equipped as aforesaid, patents shall in like manner issue upon the report of the said commissioners, and so on until the entire railroad and telegraph authorized by this act shall have been constructed, and the patents of the lands herein granted shall have been issued.

Commissioners to report under oath to the President.

Patents to be issued for lands coterminous with completed railroad.

Condition of grant.

SEC. 5. *And be it further enacted*, That the grants aforesaid are made upon the condition that the said companies shall keep said railroad and telegraph in repair and use, and shall at all times transport the mails upon said railroad, and transmit dispatches by said telegraph line for the Government of the United States, when required so to do by any Department thereof, and that the Government shall at all times have the preference in the use of said railroad and telegraph therefor at fair and reasonable rates of compensation, not to exceed the rates paid by private parties for the same kind of service. And said railroad shall be and remain a public highway for the use of the Government of the United States, free of all toll or other charges upon the transportation of the property or troops of the United States; and the same shall be transported over said road at the cost, charge, and expense of the corporations or companies owning or operating the same, when so required by the Government of the United States.

Fair and reasonable rates of compensation.

Railroad to be a public highway and free to the United States.

Property and troops of the United States to be transported at the cost of the companies when so required by the Government.

Companies to file assent to this act within 1 year.

Road to be completed by July 1, 1875.

SEC. 6. *And be it further enacted*, That the said companies shall file their assent to this act in the Department of the Interior within one year after the passage hereof and shall complete the first section of twenty miles of said railroad and telegraph within two years, and at least twenty miles in each year thereafter, and the whole on or before the first day of July, one thousand eight hundred and seventy-five; and the said railroad shall be of the same gauge as the "Central Pacific Railroad" of California, and be connected therewith.

Gauge to be same as Central Pacific.

Companies to use and operate road as one continuous line.

SEC. 7. *And be it further enacted*, That the said companies named in this act are hereby required to operate and use the portions or parts of said railroad and telegraph mentioned in section one of this act for all purposes of transportation, travel, and communication, so far as the Government and public are concerned, as one connected and continuous line; and in such operation and use to afford and secure to each other equal advantages and facilities as to rates, time, and transportation, without any discrimination whatever, on pain of forfeiting the full amount of damage sustained on account of such discrimination, to be sued for and recovered in any court of the United States, or of any State of competent jurisdiction.

No discrimination whatever.

If companies fail to comply with certain conditions, this act to be void, and the lands not conveyed to revert to the United States.

If road and telegraph line are not kept in repair Congress may, &c.

SEC. 8. *And be it further enacted*, That in case the said companies shall fail to comply with the terms and conditions required, namely, by not filing their assent thereto, as provided in section six of this act, or by not completing the same as provided in said section, this act shall be null and void, and all the lands not conveyed by patent to said company or companies, as the case may be, at the date of any such failure, shall revert to the United States. And in case the said railroad and telegraph line shall not be kept in repair and fit for use, after the same shall have been eompleted, Congress may pass an act to put the same in repair and use, and may direct the income of said railroad and telegraph line to be thereafter devoted to the United States, to repay all expenditures caused by the default and neglect of said companies or either of them, as the case may be, or may fix pecuniary responsibility, not exceeding the value of the lands granted by this act.

SEC. 9. *And be it further enacted*, That the said "California and Oregon Railroad Company" and the said "Oregon Company" shall be governed by the provisions of the general railroad and telegraph laws of their respective States, as to the construction and management of the said railroad and telegraph line hereinbefore authorized, in all matters not provided for in this act. Wherever the word "company" or "companies" is used in this act it shall be construed to embrace the words "their associates, successors, and assigns," the same as if the words had been inserted, or thereto annexed.

The companies to be governed by the laws of their respective States.

The word "company" to include "associates, successors, and assigns."

SEC. 10. *And be it further enacted*, That all mineral lands shall be excepted from the operations of this act; but where the same shall contain timber, so much of the timber thereon as shall be required to construct said road over such mineral land is hereby granted to said companies: *Provided*, That the term "mineral lands" shall not include lands containing coal and iron.

Mineral lands excepted from this grant.

"Mineral" not coal and iron.

SEC. 11. *And be it further enacted*, That the said companies named in this act shall obtain the consent of the legislatures of their respective States, and be governed by the statutory regulations thereof in all matters pertaining to the right of way, wherever the said road and telegraph line shall not pass over or through the public lands of the United States.

Companies to obtain the consent of States, where road and telegraph line do not pass through public lands.

SEC. 12. *And be it further enacted*, That Congress may at any time, having due regard for the rights of said California and Oregon railroad companies, add to, alter, amend, or repeal this act.

Act may be amended, &c.

ACT OF APRIL 10, 1869.

AN ACT to amend an Act entitled "An act granting Lands to aid in the construction of a Railroad and Telegraph Line from the Central Pacific Railroad, in California, to Portland, in Oregon," approved July twenty-five, eighteen hundred and sixty-six.

16 Stat., 47. 1866, ch. 242, vol. xiv, p. 239.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section six of an act entitled "An act granting lands to aid in the construction of a railroad and telegraph line from the Central Pacific Railroad, in California, to Portland, in Oregon," approved July twenty-five, eighteen hundred and sixty-six, be, and the same is hereby, amended so as to allow any railroad company heretofore designated by the legislature of the State of Oregon, in accordance with the first section of said act, to file its assent to such act in the Department of the Interior within one year from the date of the passage of this act; and such filing of its assent, if done within one year from the passage hereof, shall have the same force and effect to all intents and purposes as if such assent had been filed within one year after the passage of said act: *Provided*, That nothing herein shall impair any rights heretofore acquired by any railroad company under said act, nor shall said act or this amendment be construed to entitle more than one company to a grant of land: *And provided further*, That the lands granted by the act aforesaid shall be sold to actual settlers only, in quantities not greater than one-quarter section to one purchaser, and for a price not exceeding two dollars and fifty cents per acre.

Assent of railroad company to act may be filed within one year from date of this act.

Acquired rights not affected.

Not more than one company entitled to a grant of land.

Lands, how and to whom to be sold.

LAW RELATING TO THE OREGON SHORT-LINE RAILWAY.

ACT OF AUGUST 2, 1882.

AN ACT creating the Oregon Short-Line Railway Company a corporation in the Territories of Utah, Idaho, and Wyoming, and for other purposes.

22 Stat., 185.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Oregon Short-Line Railway Company, a corporation of that name duly incorporated and organized under the laws of the Territory of Wyoming, the amended articles of incorporation of which were duly filed in the office of the secretary of the said Territory on the twelfth day of July, anno Domini eighteen hundred and eighty-one, be, and the same is hereby, made a railway corporation in the Territories of Utah, Idaho, and Wyoming,

Oregon Short-Line Railway Company created a railway corporation in Territories of Utah, Idaho, and Wyoming, with rights, &c.

under the same conditions and limitations and with the same rights and privileges that it now has and enjoys under said articles of incorporation within the said Territory of Wyoming, and with all the rights and privileges within said Territories of Wyoming, Utah, and Idaho, which are secured to railway companies by the act of Congress approved the third day of March, anno Domini eighteen hundred and seventy-five, entitled "An act granting to railroads the right of way through the public lands of the United States": *Provided*, That the said corporation shall at all times hereafter be subject to all the laws and regulations of the United States in relation to railroads, or of any Territory or State through which its line of road may pass. And suits against said corporation may be instituted in the courts of said Territories, or either of them having jurisdiction by the laws of such Territory.

18 Stat., 482. Proviso.

Right to alter, amend, &c.

SEC. 2. That Congress may at any time add to, alter, or repeal this act.

LAW RELATING TO ST. LOUIS, IRON MOUNTAIN AND SOUTHERN RAILROAD.

ACT OF JUNE 28, 1884.

23 Stat., 61.

AN ACT to repeal section one of the act entitled "An act making a grant of lands in alternate sections to aid in the construction and extension of the Iron Mountain Railroad from Pilot Knob, in the State of Missouri, to Helena, in Arkansas," approved July fourth, eighteen hundred and sixty-six, and for other purposes.

14 Stat., 83. Preamble.

Whereas by the first section of an act of Congress approved July the fourth, eighteen hundred and sixty-six, there was granted to the State of Missouri, for the purpose of aiding in the construction and extension of the Iron Mountain Railroad, from its terminus at Pilot Knob to a point on the southern boundary-line of the State, every alternate section of land designated by odd numbers, for ten sections in width on each side of said road; and

Whereas said Iron Mountain Railroad Company, or its successor, did not comply with the terms of said act either in time or by the construction of its line in accordance with the location of its line as shown on its maps filed in the Department of the Interior or otherwise, and never became entitled to or received any of said lands: Therefore,

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section one of the act of Congress entitled "An act making a grant of lands in alternate sections to aid in the construction and extension of the Iron Mountain Railroad, from Pilot Knob, in the State of Missouri, to Helena, in Arkansas," approved July fourth, Eighteen hundred and sixty-six, be and hereby is repealed; and upon the acceptance by the said Iron Mountain Railroad Company, its successors or assigns, in writing, under corporate seal, within six months from the passage of this act, and upon the production to the Secretary of the Interior by said company, its successors or assigns, of satisfactory proof that said lands have not been sold or encumbered by said company, the said Iron Mountain Railroad Company, its successors or assigns, shall be forever released from any and all obligations imposed by said act of July fourth, eighteen hundred and sixty-six; and all of the lands granted by said section one be and they are hereby restored to the public domain for disposition under the public land laws of the United States: *Provided*, That all pre-emption and homestead entries heretofore allowed upon any of said lands, not in excess of the legal quantity, be, and they are hereby, confirmed: *And provided further*, That all persons residing on any of said lands at the date of the passage of this act shall have a prior right to acquire the same, not exceeding one hundred and sixty acres, by the usual methods and under the usual restrictions: *Provided*, That there shall be excluded from the operation of the release of the obligations as a land grant road herein provided, that part of the railroad between Poplar Bluff, Missouri, and the Arkansas State line.

Repeal of section one of act granting lands to aid in construction of Iron Mountain Railroad.

Release of company; conditions.

Lands restored to the public domain; *proviso.*

LAWS RELATING TO THE TEXAS AND PACIFIC RAILWAY.

ACT OF MARCH 3, 1871.

AN ACT to incorporate the Texas Pacific Railroad Company, and to aid in the Construction of its Road, and for other purposes. 16 Stat., 573.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That John C. Fremont, James L. Alcorn, G. M. Dodge, O. C. French, John D. Caldwell, * * * and all such persons as shall or may be associated with them, and their successors, are hereby created a body politic and corporate in fact and in law, by the name, style, and title of the Texas Pacific Railroad Company, and by that name shall have perpetual succession, and shall be able to sue and be sued, plead and be impleaded, defend and be defended, in all courts of law and equity within the United States, and may make and use a common seal; and the said corporation is hereby authorized and empowered to lay out, locate, construct, furnish, maintain, and enjoy a continuous railroad and telegraph line, with the appurtenances, from a point at or near Marshall, county of Harrison, State of Texas; thence by the most direct and eligible route, to be determined by said company, near the thirty-second parallel of north latitude, to a point at or near El Paso; thence by the most direct and eligible route, to be selected by said company, through New Mexico and Arizona, to a point on the Rio Colorado, at or near the southeastern boundary of the State of California; thence by the most direct and eligible route to San Diego, California, to ship's channel, in the Bay of San Diego, in the State of California, pursuing in the location thereof, as near as may be, the thirty-second parallel of north latitude, and is hereby vested with all the powers, privileges, and immunities necessary to carry into effect the pur[po]ses of this act.

Texas Pacific Railroad Company incorporated.

Name.

Empowered to lay out, construct, and enjoy a continuous railroad and telegraph line from Marshall, Tex., by a route near the 32d parallel of north latitude, via El Paso, through New Mexico and Arizona to San Diego, Cal.

SEC. 2. That the persons named in the first section of this act shall constitute a board of commissioners (twenty of whom shall constitute a quorum for the transaction of business), to be known as the Texas Pacific Railroad commissioners, who shall meet in the city of New York within ninety days after the passage of this act, at a time to be designated in a notice to be signed by the person first named in the list of corporators and six of his associates, and to be published for two weeks in, at least, one daily newspaper in New York, New Orleans, and Washington; and, when so met, they may cause books to be opened for the subscription of the capital stock of said company, and when twenty thousand shares, amounting to two millions of dollars, shall have been subscribed, and ten per centum actually paid thereon, in money, to the treasurer, to be elected by said commissioners, who shall give bond for its safe keeping and payment to the treasurer of the company when organized, then it shall be lawful for such subscribers or stockholders, or a majority thereof, to organize said company in accordance with the provisions of this act, and to elect not less than seven nor more than seventeen directors, a majority of whom shall be necessary to the transaction of business, and who shall hold their offices for one year and until their successors shall be elected and qualified; and the said directors shall immediately proceed to elect a president, vice-president, secretary, and treasurer; the president and vice-president shall be directors. At all elections for directors, each share of stock shall be entitled to one vote, which may be given by the holder in person, or by proxy, who shall also be a shareholder. The directors shall hold their offices for any term not exceeding three years, as may be provided in the by-laws; and the annual meeting of stockholders shall take place as provided for in said by-laws.

Board of commissioners constituted.

To meet in the city of New York.

Subscription books for capital stock to be opened.

Stockholders to organize company, when, &c.

Not less than seven nor more than seventeen directors.

Term of office one year.

Directors to elect officers.

Term of office of directors three years.

Annual meeting of stockholders.

SEC. 3. That the capital stock of the Texas Pacific Railroad Company shall be fixed by the board of directors, at a sum not exceeding fifty millions of dollars, in shares of one hundred dollars; and when the amount is so fixed it shall never be increased except by consent of Congress. Assessments upon said stock shall only be made by a majority vote of the whole number of directors at a regular meeting, which said assessment shall be paid at the expiration of thirty days after a given notice in one newspaper in each of the cities of Washington, Philadelphia, New York, and New Orleans.

Capital stock, $50,000,000.

Stock not to be increased without consent of Congress.

SEC. 4. That the said Texas Pacific Railroad Company shall have power and lawful authority to purchase the stock, land grants, fran-

Authority to purchase property of, and to consolidate with any railroad company not having a competing through line.

chises, and appurtenances of, and consolidate on such terms as may be agreed upon between the parties, with any railroad company or companies heretofore chartered by Congressional, State, or Territorial authority, on the route prescribed in the first section of this act; but no such consolidation shall be with any competing through line of railroads to the Pacific Ocean.

Authorized to make running arrangements with other companies

SEC. 5. That the said company shall have power and authority to make running arrangements with any railroad company or companies heretofore chartered, or that may hereafter be chartered by Congressional, State, or Territorial authority; also to purchase lands, or to accept donations, or grants of lands, or other property, from States or individuals, for the purpose of aiding in carrying out the object of this company.

Rights, franchises, &c., of purchased railroads to vest in the Texas Pacific Railroad Company.

Obligations of the other companies to be assumed.

Prior liens not impaired.

SEC. 6. That the rights, lands, land grants, franchises, privileges, and appurtenances, and property of every description, belonging to each of the consolidated or purchased railroad company or companies, as herein provided, shall vest in and become absolutely the property of the Texas Pacific Railroad Company: *Provided*, That in all contracts made and entered into by said company with any and all other railroad company or companies, to perfect such aforesaid consolidation or purchase, the indebtedness or other legal obligations of said company or companies shall be assumed by the said Texas Pacific Railroad Company as may be agreed upon, and no such consolidation or purchase shall impair any lien which may exist on any of the railroads so consolidated or purchased; but said company shall not assume the debts or obligations of any company with which it may consolidate or purchase as aforesaid, to an amount greater than the cash value of the assets received from the same.

Not to assume debts to a greater amount than the cash value of assets received.

Authority to make and enforce rules and by-laws.

SEC. 7. That the said Texas Pacific Railroad Company shall have power to make and enforce rules and by-laws for the election of its officers and the government and management of the business of the company, and to do and perform all needful and proper things to be done and performed to promote the objects of the company hereby incorporated, not inconsistent with the laws of the United States and the provisions of this charter.

Grant of right of way.

Authorized to take materials from adjacent lands.

Right of way 200 feet in width on each side of said railroad.

Grant of grounds for stations, &c., not exceeding 40 acres in any one point.

SEC. 8. That the right of way through the public lands be, and the same is hereby, granted to the said company for the construction of the said railroad and telegraph line, and the right, power, and authority is hereby given to said company to take, from the public lands adjacent to the line of said road, earth, stone, timber, and other materials for the construction thereof. Said right of way is granted to said company to the extent of two hundred feet in width on each side of said railroad where it may pass over the public lands; and there is also hereby granted to said company grounds for stations, buildings, work-shops, wharves, switches, side-tracks, turn-tables, water-stations, and such other structures as may be necessary for said railroad, not exceeding forty acres of land at any one point.

Grant of land.

40 sections per mile in the Territories.

20 sections per mile in California.

If any of the lands have been disposed of other lands may be selected.

Limits, 10 miles beyond the limits of the land grant.

Provision as to lands not obtained by reason of the near approach of the railroad to the Mexican boundary.

"Mineral" not to include iron or coal.

SEC. 9. That for the purpose of aiding in the construction of the railroad and telegraph line herein provided for, there is hereby granted to the said Texas Pacific Railroad Company, its successors and assigns, every alternate section of public lands, not mineral, designated by odd numbers, to the amount of twenty alternate sections per mile on each side of said railroad line, as such line may be adopted by said company, through the Territories of the United States, and ten alternate sections of land per mile on each side of said railroad in California, where the same shall not have *not have* been sold, reserved, or otherwise disposed of by the United States, and to which a pre-emption or homestead claim may not have attached at the time the line of said road is definitely fixed. In case any of said lands shall have been sold, reserved, occupied, or pre-empted, or otherwise disposed of, other lands shall be selected in lieu thereof by said company, under the direction of the Secretary of the Interior, in alternate sections, and designated by odd numbers, not more than ten miles beyond the limits of said alternate sections first above named, and not including the reserved numbers. If, in the too near approach of the said railroad line to the boundary of Mexico, the number of sections of land to which the company is entitled cannot be selected immediately on the line of said railroad, or in lieu of mineral lands excluded from this grant, a like quantity of unoccupied and unappropriated agricultural lands, in odd-numbered sections nearest the line of said railroad may be selected as

above provided; and the word "mineral," where it occurs in this act, shall not be held to include iron or coal: *Provided however*, That no public lands are hereby granted within the State of California further than twenty miles on each side of said road, except to make up deficiencies as aforesaid, and then not to exceed twenty miles from the lands originally granted. The term "ship's channel," as used in this bill, shall not be construed as conveying any greater right to said company to the water front of San Diego Bay than it may acquire by gift, grant, purchase, or otherwise, except the right of way, as herein granted: *And provided further*, That all such lands, so granted by this section to said company, which shall not be sold or otherwise disposed of, as provided in this act within three years after the completion of the entire road, shall be subject to settlement and pre-emption like other lands, at a price to be fixed by and paid to said company, not exceeding an average of two dollars and fifty cents per acre for all the lands herein granted.

Lands granted in California not further than 20 miles from the railroad, except, &c.

"Ship's channel" not to be construed as conveying special right to water front in San Diego Bay.

Lands granted and not sold or otherwise disposed of in three years to be subject to settlement, &c.

SEC. 10. That when the route of said railroad and telegraph line shall pass through the lands of private persons, or where it may be necessary for said railroad company to take any lands belonging to private persons for any of the purposes herein mentioned necessary to said road, such right of way through or title to such lands shall be secured in accordance with the laws of the State or Territory in which they may be situated.

Right of way through lands of private persons to be secured in accordance with law.

SEC. 11. That the Texas Pacific Railroad Company shall have power and authority to issue two kinds of bonds, secured by mortgage, namely: First, construction bonds; second, land bonds. Construction bonds shall be secured by mortgage, first, on all or any portion of the franchises, road-bed, or track of said railroad, and all the appurtenances thereto belonging, when constructed or in the course of construction, from a point at or near Marshall, to ship's channel, in the Bay of San Diego, in the State of California, as aforesaid. Land bonds shall be secured by mortgage, first, on all or any portion of the lands hereby granted in aid of the construction of said railroad as is provided for in this act; second, on lands acquired by any arrangement or purchase or terms of consolidation with any railroad company or companies to whom grants of land may have been made, or may hereafter be made, by any Congressional, State, or Territorial authority, or who may have purchased the same previous to any such arrangement or consolidation: *Provided*, That all the mortgages made and executed by said railroad company shall be filed and recorded in the Department of the Interior, which shall be a sufficient evidence of their legal execution, and shall confer all the rights and property of said company as therein expressed: *And provided also*, That the proceeds of the sales of the aforesaid construction and land bonds shall be applied only in the construction, operation, and equipment of the contemplated railroad line: *And provided further*, That said mortgage shall in no wise impair or affect any lien existing on the property of said company or companies at or before the time of such consolidation.

Corporation authorized to issue construction bonds and land bonds, secured by mortgage.

Mortgage of road and franchises to secure "construction bonds."

Mortgage of grants and acquired lands to secure "land bonds."

All mortgages to be filed and recorded in the Department of the Interior.

Proceeds of sales of bonds to be applied only to construction, operation, and equipment of railroad.

SEC. 12. That whenever the said company shall complete the first and each succeeding section of twenty consecutive miles of said railroad and put it in running order as a first-class road in all its appointments, it shall be the duty of the Secretary of the Interior to cause patents to be issued conveying to said company the number of sections of land opposite to and coterminous with said completed road to which it shall be entitled for each section so completed. Said company, within two years after the passage of this act, shall designate the general route of its said road, as near as may be, and shall file a map of the same in the Department of the Interior; and when the map is so filed, the Secretary of the Interior, immediately thereafter, shall cause the lands within forty miles on each side of said designated route within the Territories, and twenty miles within the State of California, to be withdrawn from pre-emption, private entry, and sale: *Provided, however*, That the provisions of the act of September, eighteen hundred and forty-one, granting pre-emption rights, and the acts amendatory thereof, and of the act entitled, "An act to secure homesteads to actual settlers on the public domain," approved May twenty, eighteen hundred and sixty-two, and the amendments thereto, shall be, and the same are hereby, extended to all other lands of the United States on the line of said road when surveyed, except those hereby granted to said company.

As 20-mile sections of road are completed, patents for coterminous lands shall be issued.

General route to be designated within two years, and map filed.

Lands to be withdrawn from pre-emption, &c.

Provisions of pre-emption and homestead acts extended to other lands.

Annual report, when and where to be made, and to state what.

SEC. 13. That the president of the company shall annually, by the first day of July, make a report and file it with the Secretary of the Interior, which report shall be under oath, exhibiting the financial situation of the company, the amount of money received and expended, and the number of miles of road constructed each year; and further, the names and residences of the stockholders, of the directors, and of all other officers of the company, the amount of stock subscribed, and the amount thereof actually paid in, a description of the lines of road surveyed and fixed upon for construction, the amount received from passengers and for freight, respectively, on the road, a statement of the expenses of said road and its fixtures, and a true statement of the indebtedness of said company and the various kinds thereof.

Certificates of capital stock to be signed by the president and secretary.

Bonds and mortgages.

Bonds and interest payable in gold.

Limitation as to construction bonds, $30,000 per mile.

Land bonds not to exceed $2.50 per acre for all lands mortgaged.

SEC. 14. That the certificates of the capital stock must be signed by the president and secretary, and attested by the seal of the company, and shall contain an extract from the proceedings of the board of directors fixing the amount thereof, as well as from this act, authorizing such issue. All the bonds and mortgages issued by said company must be signed by the president and secretary, and attested by the seal of said company, and shall contain an extract from the law authorizing them to be issued. The face value of said bonds shall be one thousand dollars in gold, and shall be redeemable at such times, and to bear such rate of interest, payable semi-annually in gold, as may be determined by the directors. The total value of the construction bonds to be issued shall not exceed thirty thousand dollars per mile of said railroad, and the total face value of the land bonds shall not exceed two dollars and fifty cents per acre for all lands mortgaged; the total amount of each to be determined by the board of directors.

Other railroad may connect.

No discrimination against any connecting roads.

SEC. 15. That all railroads constructed, or that may be hereafter constructed, to intersect said Texas Pacific Railroad, shall have a right to connect with that line; that no discrimination as regards charges for freight or passengers, or in any other matter, shall be made by said Texas Pacific Railroad Company against any of the said connecting roads; but that the same charges per mile as to passengers, and per ton per mile as to freight, passing from the said Texas Pacific Railroad over any of said connecting roads, or passing from any of said connecting roads over any part of said Texas Pacific Railroad, shall be made by said company as they make for freight and passengers over their own road; *Provided also*, That said connecting roads shall reciprocate said right of connection and equality of charges with said Texas Pacific Railroad; *And provided further*, That the rates charged for carrying passengers and freight, per mile, shall not exceed the prices which may be fixed by Congress for carrying passengers and freight on the Union Pacific and Central Pacific Railroads.

Rates not to exceed the prices fixed by Congress on the Union and Central Pacific.

Iron or steel rails from American ore.

SEC. 16. That said road shall be constructed of iron or steel rails manufactured from American ore, except such as may have heretofore been contracted for by any railroad company which may be purchased or consolidated with by the company hereby incorporated, as provided by this act.

Corporation to commence construction of road simultaneously at San Diego and Marshall.

Fifty miles to be built within two years.

To be completed in ten years.

Upon failure, Congress may adopt measures necessary to secure speedy completion.

SEC. 17. That the said Texas Pacific Railroad Company shall commence the construction of its road simultaneously at San Diego, in the State of California, and from a point at or near Marshall, Texas, as hereinbefore described, and so prosecute the same as to have at least fifty consecutive miles of railroad from each of said points complete and in running order within two years after the passage of this act; and to so continue to construct each year thereafter a sufficient number of miles to secure the completion of the whole line from the aforesaid point on the eastern boundary of the State of Texas to the Bay of San Diego, in the State of California, as aforesaid, within ten years after the passage of this act; and upon failure to so complete it, Congress may adopt such measures as it may deem necessary and proper to secure its speedy completion.

President to appoint one commissioner to examine sections of twenty miles as completed.

SEC. 18. That the President of the United States, upon the completion of the first section of twenty miles, shall appoint one commissioner, whose duty it shall be to examine the various sections of twenty miles as they shall be completed, and report thereon to him in writing; and if, from such report, he be satisfied that said company has fully completed each section of its road, as in this act provided, he shall direct the Secretary of the Interior to issue patents to said company for the lands it is entitled to under this act, as fast as each section of said road is completed.

SEC. 19. That the Texas Pacific Railroad Company shall be, and it is hereby, declared to be a military and post-road; and for the purpose of insuring the carrying of the mails, troops, munitions of war, supplies, and stores of the United States, no act of the company nor any law of any State or Territory shall impede, delay, or prevent the said company from performing its obligations to the United States in that regard: *Provided*, That said road shall be subject to the use of the United States for postal, military, and all other Governmental services, at fair and reasonable rates of compensation, not to exceed the price paid by private parties for the same kind of service, and the Government shall at all times have the preference in the use of the same for the purpose aforesaid.

Railroad declared to be a military post-road.

Transportation for the United States not to be impeded.

Fair and reasonable rates of compensation.

SEC. 20. That it shall not be lawful for any of the directors, either in their individual capacity or as members of an incorporated or joint stock company, to make any contracts or agreements with the said Texas Pacific Railroad Company for the construction, equipment, or running of its road, or to have any interest therein; and all such contracts or agreements are hereby declared null and void; and all money or property received under such contracts or agreements may be recovered back for the benefit of the company by any stockholder.

No directors to contract for constructing, &c., any part of the road.

SEC. 21. That any railroad company whose route lies across the route of the Texas Pacific Railroad may cross the same, and for the purpose of crossing shall have the right to acquire at the double minimum price all lands, whether of the United States or granted by this act, which shall be needed for a right of way two hundred feet wide through said lands, and for depots, stations, side-tracks, and other needful purposes, not exceeding for such purposes forty acres at any one station.

Railroad companies may cross this road.

Mayhavelands for right of way and for depots at a certain price.

SEC. 22. That the New Orleans, Baton Rouge, and Vicksburg Railroad Company, chartered by the State of Louisiana, shall have the right to connect by the most eligible route to be selected by said company with the said Texas Pacific Railroad at its eastern terminus, and shall have the right of way through the public land to the same extent granted hereby to the said Texas Pacific Railroad Company; and in aid of its construction from New Orleans to Baton Rouge, thence by the way of Alexandria, in said State, to connect with the said Texas Pacific Railroad Company at its eastern terminus, there is is hereby granted to said company, its successors and assigns, the same number of alternate sections of public lands per mile, in the State of Louisiana, as are by this act granted in the State of California, to said Texas Pacific Railroad Company; and said lands shall be withdrawn from the market, selected, and patents issued therefor, and opened for settlement and pre-emption, upon the same terms and in the same manner, and time as is provided for and required from said Texas Pacific Railroad Company, within said State of California: *Provided*, That said company shall complete the whole of said road within five years from the passage of this act.

New Orleans, Baton Rouge and Vicksburg Railroad Company may connect with this road.

Grant of right of way.

Grant of lands, to aid in its construction.

20 sections per mile in the State of Louisiana.

Lands to be withdrawn from markets, etc.

Roads to be completed within five years.

SEC. 23. That, for the purpose of connecting the Texas Pacific Railroad with the city of San Francisco, the Southern Pacific Railroad Company of California is hereby authorized (subject to the laws of California) to construct a line of railroad from a point at or near Tehachapa Pass by way of Los Angeles, to the Texas Pacific Railroad at or near the Colorado River, with the same rights, grants, and privileges, and subject to the same limitations, restrictions, and conditions as were granted to said Southern Pacific Railroad Company of California, by the Act of July twenty-seven, eighteen hundred and sixty-six: *Provided, however*, That this section shall in no way affect or impair the rights, present or prospective, of the Atlantic and Pacific Railroad Company, or any other railroad company.

Southern Pacific RailroadCompany may construct a road to connect the Texas Pacific Railroad with San Francisco.

Proviso that right of Atlantic and Pacific Railroad Co. shall be in no way impaired.

ACT OF MAY 2, 1872.

AN ACT supplementary to an act entitled "An act to incorporate the Texas Pacific Railroad Company, and to aid in the Construction of its Road, and for other purposes," approved March third, eighteen hundred and seventy-one.

17 Stat., 59. 1871, ch. 122, vol. xvi, p. 573.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the name, style, and title of the Texas Pacific Railroad Company shall hereafter be "The Texas and Pacific Railway Company;" and the said The Texas and Pacific

Name changed from "Texas Pacific Railr'd Co." to "Texas and Pacific Rail'y Co."

The rights, privileges, and franchises conferred.

Railway Company shall have, possess, and enjoy all the rights, privileges, and franchises heretofore conferred upon the said Texas Pacific Railroad Company.

May issue construction and land bonds.

Construction bonds not to exceed $40,000 per mile. (See sec. 14 of prior act.)

Granted lands may be included in the mortgage to secure said construction bonds.

Land bonds, how secured.

SEC. 2. That the said The Texas and Pacific Railroad Company shall have power and authority to issue the construction and land bonds authorized by the eleventh section of said act of incorporation, for such amounts, not exceeding forty thousand dollars per mile of said road, of construction bonds, as said company may deem needful to provide for the construction and equipment of its line, and to include in the mortgage or mortgages to secure said construction bonds all or any portion of the lands granted in aid of the construction of said railroad; and in the mortgage or mortgages to secure said land bonds, any portion of said lands not so used to secure the construction bonds aforesaid; and all or any portion of the lands acquired by the terms of consolidation lawfully authorized by the fourth section of said act of March third, eighteen hundred and seventy-one, with any railroad company or companies to whom grants of land may have been made, or may hereafter be made, by any Congressional, State, or Territorial authority, or who may have purchased the same previous to any such arrangement or consolidation, and within the time limited for the completion of the road, and all such lands of every description shall be subject to all limitations and conditions now by law existing in relation thereto, and as modified by this act; and this act shall not be construed to revive, enlarge, extend, or create any land grant whatever, beyond that heretofore granted by Congress, and which shall duly inure to said company upon compliance with the terms of this act in relation to the times fixed for completion of said railway, and all such mortgages shall be subject to all the conditions and limitations by law existing under this act and the acts to which it is supplementary in respect of such lands, and shall not be held to vest any title in the mortgage or create any lien on such lands, other than such company is or may become lawfully entitled to vest or create thereunder; bnt the amount of said land bonds shall not exceed two and a half dollars per acre for all lands covered by the mortgage or mortgages securing the same.

No land grant revived, enlarged, extended, or created by this act.

Amount of land bonds not to exceed, &c.

Mortgages to be filed, and recorded in the Department of the Interior.

Proceeds of bonds and stock, how only to be paplied.

SEC. 3. That all the mortgages made and executed by said railroad company shall be filed and recorded in the Department of the Interior, which shall be a sufficient evidence of their legal execution: *Provided*, That the aforesaid bonds and the authorized capital stock, or the proceeds thereof, shall be applied only for the purpose of securing the construction, operation, and equipment of the contemplated railroad line, under lawful contracts with such parties, and on such terms and conditions as said company may deem needful, and for the further purpose of purchase, consolidation, completion, equipment, and operating of the other roads, as contemplated by said act and specified therein, being a part of the aforesaid railroad line, and for the expenses necessary and incident to the works authorized thereby: *Provided, however*, That said road and its equipment shall be of the standard heretofore required by the United States Government for the existing Pacific Railway lines; *And provided further*, That said mortgage or mortgages shall in no wise impair or affect any lien existing on the property of said company or companies at or before the time of such consolidation.

Standard of road and equipment to be same as required of the existing Pacific Railways.

Prior lines not affected.

The iron or steel rails to be made from American ore, except, &c.

SEC. 4. That said road shall be constructed of iron or steel rails manufactured from American ore, except such as may have been contracted for before consolidation by any railroad company which may be purchased by or consolidated with this company.

Construction of road to be commenced where, and to be continued in what direction.

SEC. 5. That the said Texas and Pacific Railway Company shall commence the construction of its road at or near Marshall, Texas, and proceed with its construction, under the original act and this supplement, or in pursuance of the authority derived from any consolidation as aforesaid, westerly from a point near Marshall, and towards San Diego, in the State of California, on the line authorized by the original act, and so prosecute the same as to have at least one hundred consecutive miles of railroad from said point complete and in running order within two years after the passage of this act; and so continue to construct, each year thereafter, a sufficient number of miles, not less than one hundred, to secure the completion of the whole line from the aforesaid point on the eastern boundary of the State of Texas to the bay of San Diego, in the State of California, as aforesaid, within ten years after the passage of this act; and said road from Marshall, Texas, throughout the length thereof, shall be of uniform gauge: *Provided, however*, That

100 consecutive miles to be in running order within two years.

100 miles each year thereafter.

the said company shall commence the construction of said road from San Diego eastward within one year from the passage of this act, and construct not less than ten miles before the expiration of the second year, and, after the second year, not less than twenty-five miles per annum in a continuous line thereafter between San Diego and the Colorado River, until the junction is formed with the line from the east at the latter point or east thereof; and upon failure to so complete it, Congress may adopt such measures as it may deem necessary and proper to secure its speedy completion; and it shall also be lawful for said company to commence and prosecute the construction of its line from any other point or points on its line; but nothing in this act contained shall be so construed as to authorize the grant of any additional lands or subsidy, of any nature or kind whatsoever, on the part of the Government of the United States: *Provided*, That said Texas and Pacific Railway Company shall be, and is hereby, authorized and required to construct, maintain, control, and operate a road between Marshall, Texas, and Shreveport, Louisiana, or control and operate any existing road between said points, of the same gauge as the said Texas and Pacific Railroad; and that all roads terminating at Shreveport shall have the right to make the same running connections, and shall be entitled to the same privileges, for the transaction of business in connection with the said Texas and Pacific Railway, as are granted to roads intersecting therewith: *Provided, further*, That nothing herein shall be construed as changing the terminus of said Texas and Pacific Railway from Marshall as provided in the original act.

Time of completion, 10 years from May 2, 1872. Uniform gauge. Road from San Diego eastward, when and how to be built.

Upon failure, Congress may adopt measures necessary to secure speedy completion.

Road between Marshall and Shreveport to be controlled and operated by Texas and Pacific.

SEC. 6. That all acts or parts of acts inconsistent with this supplement be, and the same are hereby, repealed.

Repealing clause.

ACT OF MARCH 3, 1873.

AN ACT supplemental to an Act entitled "An Act to incorporate the Texas Pacific Railroad Company, and to aid in the Construction of its Road, and for other Purposes," approved March third, eighteen hundred and seventy-one.

17 Stat., 598. 1871, ch. 122, vol. XVI, p. 573.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the face value of all bonds hereafter issued by the Texas and Pacific Railroad [Railway] Company, under the provisions of an act approved March third, eighteen hundred and seventy-one, shall, at the option of the company, be either in gold, or other lawful money of the United States, bearing interest, at like option of the company, either in gold or other lawful money of the United States; and any mortgage heretofore executed by said company, securing bonds payable in any lawful money of the United States other than gold, and the bonds recited therein, and to secure which, said mortgage was given, are hereby legalized, and said mortgage and bonds shall have the same effect as though they had been authorized by the act to which this is a supplement. *Provided*, That in all respects the requirements of that law in regard to such mortgage and bonds have been fully complied with.

Face value of bonds hereafter issued by Texas and Pacific Railway Company may be in gold or other lawful money.

Former mortgages legalized if other requirements of law have been complied with.

ACT OF JUNE 22, 1874.

AN ACT supplementary to an act entitled "An act to incorporate the Texas Pacific Railroad Company, and to aid in the construction of its road, and for other purposes."

13 Stat., 197. 1871, ch. 122, vol. XIV, pp. 573, 579.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Texas and Pacific Railway Company is hereby empowered to secure, by one or more mortgages upon the whole or any portion of its line, the construction-bonds heretofore authorized to be issued, and to cancel the mortgage now on record with the Secretary of the Interior so far as the same can be done without prejudice to existing rights, and to substitute therefor the mortgage or mortgages hereby authorized, which substituted mortgages shall expressly reserve all rights which may have been acquired under the existing mortgage: *Provided*, That the aggregate of the said

Texas and Pacific Railway Company authorized to secure construction bonds by new mortgages.

To cancel mortgage on record with Secretary of the Interior.

To subtsitute mortgages authorized by this act.

Limit heretofore fixed not to be exceeded.

What new mortgages shall embrace.

Consolidated roads, how to be deemed.

bonds to be issued under and secured by said mortgage or mortgages shall not exceed the limits heretofore fixed by Congress; and said mortgages for the division east of Fort Worth shall embrace the roads and property of the Southern Pacific Railroad Company and of the Southern Trans-continental Railway Company, heretofore merged in and consolidated with the said Texas and Pacific Railway Company, under the authority and requirements of the laws of the State of Texas; and which roads so merged as aforesaid shall for that and all other purposes be deemed and taken to be a part of the said Texas and Pacific Railway, and shall hereafter be subject to all the provisions and limitations of the act of Congress incorporating said company and of the supplements thereto: *And provided further*, That nothing in this act shall be construed or have the effect to entitle said corporation to any other or further rights to public lands, or in any other respect as against the United States, than such as by law it is now entitled to.

No other or further rights granted.

APPENDIX C.

Syllabi of decisions of the United States Supreme Court in cases affecting the bond-aided Pacific railroad companies and to which the United States are parties.

No. 1. The United States *v.* The Union Pacific Railroad Company. (91 U. S., 72.)

INTEREST.

Suit brought to determine whether the company is required to pay the interest before the maturity of the principal of the bonds.

Held, that "such was *not* the intention of Congress."

No. 2. The Union Pacific Railroad Company *v.* Hall *et al.* (91 U. S., 343.)

EASTERN TERMINUS OF THE UNION PACIFIC RAILROAD.

Suit brought to determine the initial point of the Iowa Branch of the Union Pacific Railroad.

Held, that "the legal terminus of the railroad is fixed by law on the Iowa shore of the Missouri River; that the bridge is a part of the road, and the company is under obligation to operate and run the whole road, including the bridge, as one connected and continuous line."

No. 3. The United States *v.* The Union Pacific Railroad Company. (98 U. S., 569.)

CREDIT MOBILIER CASE.

Held, that "no case for relief is made by the bill, and the decree of the court below dismissing it is affirmed."

No. 4. The Union Pacific Railroad Company *v.* The United States. (99 U. S., 402.)

Case in some respects supplemental to that of "United States *v.* Union Pacific Railroad Company." (No. 1.)

Questions determined are—

(1) Date of completion of road—"November 6, 1869."

(2) What is included in net earnings?—"These earnings must be regarded as embracing all the earnings and income derived by the company from the railroad proper and all the appendages and appurtenances thereof, including its ferry and bridge at Omaha, its cars, and all its property and apparatus legitimately connected with its railroad. If * * * it should be found that the net earnings in any one year were not more than sufficient to pay the interest on the first-mortgage bonds accruing in said year, then the company will not be decreed to pay any portion of the said 5 per cent of net earnings for that year. But if the net earnings were more than sufficient to pay said interest, the excess will be subject, so far as it will go, to the payment of said 5 per cent; but the company will not be decreed to pay any more than said excess."

No. 5. The United States *v.* The Central Pacific Railroad Company. (99 U. S., 449.)

"This case, in all material respects, involves the same questions as Union Pacific Railroad Company *v.* United States" (No. 4).

Completion of road fixed as of the same date as the Union Pacific Railroad (November 6, 1869).

No. 6. The United States *v.* The Kansas Pacific Railway Company. (99 U. S., 455.)

Same as foregoing. Alleged date of completion of road, November 6, 1869.

Held, that the subsidy bonds granted only in respect of the original road terminating at the one-hundredth meridian, are a lien on that portion only, and that the 5 per cent of the net earnings is only demandable on the net earnings of said portion ($393\frac{15}{66}$ miles).

No. 7. The United States *v.* The Denver Pacific Railway and Telegraph Company. (99 U. S., 460.)

Suit brought to recover 5 per cent of net earnings upon the whole line of the Kansas Pacific, including the branch from Denver to Cheyenne.

Held, that neither the company nor its railroad or property is liable in any way for the payment of any debt incurred for such bonds received by the Kansas Pacific Railroad Company.

No. 8. The United States *v.* The Sioux City and Pacific Railroad Company. (99 U. S., 491.)

Suit brought to recover 5 per cent of net earnings.

Held, that if the amount of net earnings is insufficient to pay the interest on the company's first-mortgage bonds, the Government can not claim the 5 per cent which would otherwise be applicable to its subsidy. (See decision in Union Pacific Railroad Company *v.* United States, No. 4.)

No. 9. The Union Pacific Railroad Company *v.* The United States. (99 U. S., 700.)

Constitutionality of sinking-fund act affirmed.

No. 10. The Union Pacific Railroad Company *v.* The United States. (104 U. S., 662.)

Action brought to recover compensation for services in carrying the mails and employés. United States sets up counterclaim for 5 per cent of net earnings.

Held, The sixth section of the act of Congress of July 1, 1862, chapter 120, incorporating the Union Pacific Railroad Company (12 Stat., 489), constitutes a contract between the United States and the company, whereunder the latter, for its service in transporting upon its road, from January 1, 1876, to October 1, 1877, the mails, and the agents and clerks employed in connection therewith, is entitled to compensation at fair and reasonable rates, not to exceed those paid by private parties for the same kind of service.

(2) The contract is not affected by the sections of the Revised Statutes declaring that the Postmaster-General may fix the rate for such service when performed by railroad companies to which Congress granted aid, and he had no authority to insist that it was not binding upon the United States.

(3) The company, having been required to perform the contract, lost no rights by a compliance therewith, as it protested against and rejected all illegal conditions attached to the requirement.

No. 11. Western Pacific Railroad Company *v.* The United States. (108 U. S., 510.)

PUBLIC LANDS.

In a suit brought by a district attorney of the United States to set aside a patent conveying public lands, objection was taken in this court that it does not sufficiently appear that the suit was brought under authority from the Attorney-General: *Held*, that, "the objection not having been taken below, the fact of such authority could be inquired into and shown here."

On the evidence it appeared that the lands in question were mineral lands, and were known to be such by the applicant for the patent and agent for the railroad company at the time of the application. The patent was set aside.

No. 12. The Sioux City and Pacific Railroad Company *v.* The United States. (110 U. S., 205.)

Suit to recover an internal-revenue tax on the undivided net earnings of the plaintiff's railroad.

Held, that "in a suit to collect an internal-revenue tax on the undivided net earnings of the road, carried to a fund or to construction account, the plaintiff was not

entitled to have the interest upon these bonds deducted from its net earnings before settling the amount to be subject to the tax; but that the amount of that interest, if earned and carried to a fund or charged to construction, was taxable."

No. 13. The Union Pacific Railway Company *v.* The United States. (116 U. S., 154.)

Suit brought to recover for transportation of the mails in accordance with the requirements of the company's charter.

Held, That "case presents no question of law, and the motion is denied."

No. 14. The Union Pacific Railway Company *v.* The United States. (117 U. S., 355.)

Controversy as to what are "fair and reasonable rates of compensation" which are required to be charged the United States for the transportation over the defendant's railroad of mails, troops, supplies, etc., by section 6 of act of July 1, 1862.

Held, That "the amount claimed by the Treasury Department as fair and reasonable was proper. Also, that the rates of transportation by the Union Pacific Railway Company for the United States govern transportation over bridge between Council Bluffs and Omaha."

No. 15. The United States *v.* The Central Pacific Railroad Company. (118 U. S., 235.)

Suit brought to recover compensation for services rendered the United States in transporting persons and freight over those parts of its railroad in the building of which it had not been aided by the Government. The United States demurred. The demurrer was overruled and judgment rendered in favor of the claimant. The United States appealed.

Held, That "compensation is limited to services rendered by the aided roads. The construction of the second section of the act of May 7, 1878, contended for by the appellee is, therefore, right." Judgment affirmed.

No. 16. The United States *v.* The Central Pacific Railroad Company. (138 U. S., 84.)

NEW CONSTRUCTION.

Held, That "the sums expended by the Central Pacific Railroad Company for betterments and improvements on its road, its buildings, and equipments, whereby the capital of the company invested in its works is increased in permanent value, are not to be regarded as part of its current expenses to be deducted from its gross receipts in reaching and determining the amount of the net earnings upon which a percentage is to be paid to the United States."

This case is distinguished from the case of Union Pacific Railroad Company *v.* United States. (No. 4.)

No. 17. The United States *v.* The Union Pacific Railway Company. (148 U. S., 562.)

PUBLIC LANDS.

This case arose upon demurrers and a plea to a bill in equity filed by the United States against the Union Pacific Railway Company and one hundred and seventy-three other corporations and individuals, to procure the surrender and cancellation of certain land patents issued to the Kansas Pacific Railway and the Denver Pacific Railway and Telegraph Company, and for a decree declaring all conveyances of such lands clouds upon the title of the United States.

Held, That "the right conferred by the act of July 1, 1862, as subsequently amended, upon the corporation afterwards known as the Union Pacific Railway Company, eastern division, to construct its road substantially in a direct line to Denver, and from thence northerly, to connect with the Union Pacific Railroad at Cheyenne, and to acquire a grant of public lands thereby upon each side of its railroad as constructed, was not affected by the act of March 3, 1869, in such a way as to make the Union Pacific, eastern division, terminate at Denver, and to cause its land grants to terminate there; but on the contrary, the act of 1862 being a grant *in præsenti,* the company's right to lands upon each side of its road became fixed from the moment it proceeded, under the act of 1866, to establish its line of definite location so as to make the same extend from Kansas City westwardly to Denver, and thence northwardly to Cheyenne, and the act of 1869 is not to be construed as breaking the continuity of the line.

If there were any doubt with regard to the interpretation of the act of 1869, the construction placed upon it by the Land Department for eighteen years, under which lands have been put upon the market and sold, would be entitled to considerable weight."

APPENDIX D.

GOVERNMENT DIRECTORS OF THE UNION PACIFIC RAILWAY COMPANY APPOINTED BY THE PRESIDENT APRIL 26, 1893.

Dickinson, Don M	Detroit, Mich.
Dimock, Henry F	32 Nassau street, New York.
Doane, J. W	61 Wabash avenue, Chicago, Ill.
Lee, Fitzhugh	Glasgow, Va.
Paddock, Joseph W	Omaha, Nebr.

Messrs. Dickinson and Dimock having declined to serve, Mr. E. Ellery Anderson, of New York City, was appointed in place of Mr. Dimock on August 3, 1893. The successor to Mr. Dickinson has not been appointed.

NOTE: The terms of office of Government directors are the same as the terms of office of the directors elected by the stockholders of the company, to wit, one year; the time fixed by the latter for holding the annual meetings being the last Wednesday in April of each year.

The meetings of the board of directors are held quarterly, and the meetings of the executive committee are held monthly, usually in Boston or New York.

The compensation of a Government director is $10 per day for each day actually employed and mileage from residence to place of meeting and return at the rate of 10 cents per mile each way. This compensation is paid by the railway company.

TABLE NO. 1.—*Amount of bonds issued in aid of Pacific railroads, the interest paid thereon by the United States, and the amounts repaid by the several companies to June 30, 1893.*

	Union Pacific, including Kansas Pacific.	Central Pacific, including Western Pacific.	Sioux City and Pacific.	Central Branch, Union Pacific.	Total.
Principal of bonds issued	$33,539,512.00	$27,855,680.00	$1,628,320.00	$1,600,000.00	$64,623,512.00
Interest paid by United States	51,210,890.70	41,834,212.21	2,441,289.49	2,509,808.26	97,996,200.66
Total debt	84,750,402.70	69,689,892.21	4,069,609.49	4,109,808.26	162,619,712.66
CREDITS.					
Applied to bond and interest account:					
Transportation	17,971,156.85	6,822,474.51	204,846.44	561,264.65	25,559,742.45
Cash	438,409.58	658,283.26	.....	6,926.91	1,103,619.75
Applied to sinking fund account:					
Transportation	9,505,183.71	3,882,156.24	.....	.....	13,387,339.95
Cash	1,421,714.46	633,992.48	.....	.....	2,055,706.94
Interest on sinking fund investments	3,497,859.12	1,667,156.72	.....	.....	5,165,015.84
Total credits	32,834,323.72	13,664,063.21	204,846.44	568,191.56	47,271,424.93
Balance of debt	51,916,078.98	56,025,829.00	3,864,763.05	3,541,616.70	115,348,287.73
Excess of interest paid by United States over all credits	18,376,566.98	28,170,149.00	2,236,443.05	1,941,616.70	50,724,775.73

TABLE NO. 2.—*Condition of sinking funds on June 30, 1893.*

To the credit of the Union Pacific	$14,415,738.68	
To the credit of the Central Pacific	6,103,754.42	
Total sinking funds held by the Secretary of the Treasury		$20,519,493.10
Premium paid on bonds:		
Union Pacific	1,925,238.68	
Central Pacific	1,186,254.42	
		3,111,493.10
Interest received from investments:		
Union Pacific	3,497,859.12	
Central Pacific	1,667,156.72	
		5,165,015.84

Character of bonds.	Union Pacific.	Central Pacific.	Total.
Funded loan of 1881, 5 per cent extended at 3 per cent.	$256,450.00	$736,700.00	$993,150.00
Funded loan of 1882, at 3 per cent	1,620,000.00	1,220,000.00	2,840,000.00
Funded loan of 1907, at 4 per cent	4,478,650.00	199,100.00	4,677,750.00
Currency sixes, United States subsidy bonds	1,043,000.00	2,548,000.00	3,591,000.00
First-mortgage bonds of prior lien to United States	12,302,500.00	2,614,500.00	14,917,000.00
Principal	19,700,600.00	7,318,300.00	27,018,900.00
Less bonds redeemed and sold	7,210,100.00	2,400,800.00	9,610,900.00
Present principal	12,490,500.00	4,917,500.00	17,408,000.00
Premium paid	1,925,238.68	1,186,254.42	3,111,493.10
Total cost	14,415,738.68	6,103,754.42	20,519,493.10

TABLE NO. 3.—*Statement of amounts found due the United States by the Union Pacific Railway Company, under the provisions of the Thurman act, from July 1, 1878, to December 31, 1892.*

Period.	25 per cent of net earnings due from the Union Division.	5 per cent of net earnings and one-half Government transportation due from the Kansas Division.	Total requirement.	Less settled accounts for transportation services rendered and cash payments into the United States Treasury.		
				Union Division.	Kansas Division.	Total.
Half year ended December 31, 1878.....	$906,429.40	.....	$906,429.40	$354,922.36	$212,153.47	$567,075.83
Year ended December 31—						
1879.....	1,467,773.08	.....	1,467,773.08	1,477,242.72	625,425.99	2,102,668.71
1880.....	1,820,653.22	$136,219.02	1,956,872.24	985,359.61	132,614.44	1,117,974.05
1881.....	1,826,294.98	142,571.22	1,968,866.20	455,730.46	122,565.19	578,295.65
1882.....	2,032,311.55	118,341.38	2,150,652.93	1,129,758.48	193,040.21	1,322,798,69
1883.....	1,809,458.00	89,221.76	1,898,679.76	1,390,259.57	236,593.89	1,626,853.46
1884.....	1,228,856.77	107,951.93	1,336,808.70	3,178,850.49	152,998.74	3,331,849.23
1885.....	1,147,837.58	141,019.25	1,288,856.83	1,977,605.18	152,213.11	2,129,818.29
1886.....	922,861.26	129,914.35	1,052,775.61	1,160,559.35	106,870.49	1,267,429.84
1887.....	1,180,009.09	147,647.90	1,327,656.99	1,065,546.25	96,479.88	1,162,026.13
1888	1,143,598.78	115,219.66	1,258,818.44	1,017,942.42	94,379.16	1,112,321.58
1889.....	1,251,041.80	91,173.92	1,342,215.72	1,061,067.34	93,424.74	1,154,492.08
1890.....	1,078,548.57	90,628.26	1,169,176.83	1,023,110.18	103,808.52	1,126,918.70
1891.....	1,221,008.81	121,569.32	1,342,578.13	1,116,833.22	114,168.72	1,231,001.94
1892.....	1,247,907.31	136,752.09	1,384,659.40	1,337,998.08	131,009.94	1,469,008.02
Total	20,284,590.20	1,568,230.06	21,852,820.26	18,732,785.71	2,567,746.49	21,300,532.20
Balance due United States	.....	.....	.....	.....	.....	552,288.06
						21,852,820.26

TABLE NO. 4.—*Statement of amounts found due the United States by the Central Pacific Railroad Company under the provisions of the Thurman act, from July 1, 1878, to December 31, 1892.*

Period.	Net earnings.	Requirement for each year.			Less settled accounts for transportation services rendered and cash paid into the United States Treasury.
		25 per cent of net earnings.	5 per cent of net earnings and whole Government transportation.	Total.	
Half year ended December 31, 1878	$2,145,167.71	$536,291.93	.....	$536,291.93	$211,670.58
Year ended December 31—					
1879	3,598,255.68	899,563.92	.....	899,563.92	768,984.90
1880	4,148,901.12	1,037,225.28	.....	1,037,225.28	980,672.27
1881	4,155,740.97	1,038,935.24	.....	1,038,935.24	610,648.21
1882	3,171,680.95	792,920.24	.....	792,920.24	1,272,266.45
1883	2,646,122.76	661,530.69	.....	661,530.69	1,049,535.18
1884	1,212,526.45	.....	$538,851.52	538,851.52	456,850.44
1885	1,110,952.97	.....	398,489.03	398,489.03	487,080.33
1886	1,496,173.85	.....	419,503.14	419,503.14	346,948.06
1887	1,870,429.78	467,607.44	.....	467.607.44	364,426.85
1888	1,889,044.48	.....	484,452.17	484,452.17	402,068.46
1889	1,470,247.60	.....	466,299.14	466,299.14	366,144.43
1890	1,012,861.08	.....	537.520.44	537,520.44	434,637.81
1891	2,118,915.23	.....	529,728.81	529,728.81	181,080.80
1892	1,548,895.34	.....	577,048.33	577,048.33	832,036.68
Total	33,595,915.97	5,434,074.74	3,951,892.58	9,385,967.32	8,765,051.45
Balance due United States	.....	.....	.....	.....	620,915.87
					9,385,967.32

TABLE NO. 5.—*Statement of issues of bonds and grants of lands to railroad companies coming under the provisions of the act of Congress approved June 19, 1878, with the number of acres patented to and forfeited by the companies, and the number of acres restored to the public domain.*

Name of company now operating.	Name of company included in the act of June 19, 1878.	Date of act.	Amount of bonds.	Number of acres—			
				Granted.	Patented.	Forfeited.	Restored.
Atchison, Topeka and Santa Fe	Atchison, Topeka and Santa Fe	Mar. 3, 1863		3,000,000	2,934,522.86		
	Atlantic and Pacific	July 27, 1866		42,000,000	2,032,892.02	10,795,480	4,790,000
	Leavenworth, Lawrence and Galveston	Mar. 3, 1863		800,000	69,104.95		
	St. Louis and San Francisco	June 10, 1852		1,161,235.07	728,949.36		
Chicago, Burlington and Quincy	Burlington and Missouri River	May 15, 1856		948,643.66	2,762,304.85		
		July 2, 1864		2,441,600			
	Hannibal and St. Joseph	June 10, 1852		781,944.83	603,186.34		
Chicago, Milwaukee and St. Paul	Chicago, Milwaukee and St. Paul				186,706.77		
	Hastings and Dakota	July 4, 1866		550,000	349,116.88		
	McGregor and Missouri River	May 12, 1864		1,536,000	138,187.30		
	Minnesota Central	Mar. 3, 1857 / Mar. 3, 1865		643,403	179,706.01		
	Southern Minnesota	Mar. 3, 1857 / July 4, 1866		794,619.45	509,992.69		
Chicago and Northwestern	Chicago and Northwestern	June 3, 1856 / July 5, 1862 / Mar. 3, 1865		1,165,575.76	1,073,554.08		
	Chicago, St. Paul, Minneapolis and Omaha.	June 3, 1856 / May 5, 1864		2,173,706.43	2,166,436.10		125,000
	Cedar Rapids and Missouri River	May 15, 1856		1,298,739	719,142.57		
	St. Paul and Sioux City	Mar. 3, 1857 / May 12, 1864		1,010,000	1,146,888.52		
	Sioux City and St. Paul	do		524,800	407,910.21		26,017.33
	Sioux City and Pacific	July 1, 1862 / July 2, 1864	$1,628,320.00	60,000	41,398.23		
	Winona and St. Peter	Mar. 3, 1857 / Mar. 3, 1865		1,410,000	1,676,787.31		
Chicago, Rock Island and Pacific	Chicago, Rock Island and Pacific	May 15, 1856		1,261,181	420,169.21		
Great Northern	St Paul and Pacific	Mar. 3, 1857 / Mar. 3, 1865		1,838,638 95	2,121,717.47		
	St. Paul, Minneapolis and Manitoba	Mar. 3, 1857		885,000	785,043.41		
Illinois Central	Dubuque and Sioux City / Iowa Falls and Sioux City	May 15, 1856		1,226,163	327,690.39 / 683,023.80		
Little Rock and Memphis	Memphis and Little Rock	Feb. 9, 1853		438,646	174,567.75		
Missouri, Kansas and Texas	Missouri, Kansas and Texas	Mar. 3, 1863		1,520,000	797,049.24		5,700
Missouri Pacific	Little Rock and Fort Smith	Feb. 9, 1853		*1,100,000	1,057,647.55		
	St. Louis, Iron Mountain and Southern (Cairo and Fulton).	do		1,178,411.05	1,178,411.05	601,600	†15,000
Northern Pacific	Northern Pacific	July 2, 1864		47,000,000	5,363,423.07		8,978,800
	Wisconsin Central	May 5, 1864		1,800,000	770,727.08		200,000

St. Paul and Duluth	St. Paul and Duluth	do			920,000	828,581		8,000
Southern Pacific Company	Central Pacific	July	2, 1864	25,885,120.00	8,000,000	1,587,208.97		
	California and Oregon	July	23, 1866		3,500,000	1,549,709.16		
	Oregon and California (including the Oregon Central).	July	25, 1866		4,700,000	614,549.30	‡2,010,880	1,800,000
		May	4, 1870					
	Western Pacific	July	1, 1861	1,970,560.00	1,000,000	917,297		
	Southern Pacific of California	June	3, 1857		10,487,840	2,211,182.90		4,350,000
		July	27, 1866					
		Mar.	3, 1871		3,520,000			
Texas and Pacific	Texas and Pacific	do			18,000,000		15,692,800	
	New Orleans, Baton Rouge and Vicksburg.	do			3,800,000	912,865.93	352,587	
	Vicksburg, Shreveport and Pacific	June	3, 1856		610,880			19,000
Union Pacific	Union Pacific	July	1, 1862	27,236,512.00	12,000,000	10,842,833.55		
		July	2, 1864					
	Central Branch Union Pacific	do		1,600,000.00	781,944.83	218,250.08		
	Denver Pacific	July	1, 1862		1,000,400	209,232.52		
	Kansas Pacific	do		6,303,000.00	6,000,000	2,476,052.18		
	St. Joseph and Grand Island	July	23, 1866		1,700,000	462,573.24		
	Total			64,623,512.00	196,569,372.03	54,236,592.90	29,453,347	20,317,517.33

NOTE.—The even-numbered sections on line of Pacific Railroads and branches were restored to the public domain by the act of March 6, 1868. Lands adjacent to uncompleted portions of these roads were forfeited by the act of July 6, 1866.

* See Poor's Manual of Railroads, 1874–'75.
† See report under head of St. Louis, Iron Mountain and Southern Railroad.
‡ See Report General Land Office for 1888 p. 256.

TABLE NO. 6.—*Statement showing the amount of bonds issued to the several Pacific Railroad Companies and to whom delivered, with the dates of issue, maturity, beginning of interest, and the number of miles aided.*

CENTRAL PACIFIC RAILROAD COMPANY.

Date of issue.	Amount.	Date on which interest begins.	Date of maturity.	To whom delivered.	Number of miles aided.
May 12, 1865	$1,258,000	Jan. 16, 1865	Jan. 16, 1895	Collis P. Huntington	31
Nov. 8, 1865	384,000	Aug. 14, 1865	do	do	
Nov. 9, 1865	256,000	Oct. 16, 1865	do	do	23
Dec. 11, 1865	464,000	Nov. 29, 1865	do	do	
Mar. 6, 1866	640,000	Mar. 6, 1866	Jan. 1, 1896	do	20
July 10, 1866	640,000	July 10, 1866	do	do	20
Oct. 31, 1866	320,000	Oct. 29, 1866	do	do	.....
Jan. 15, 1867	640,000	Jan. 14, 1867	Jan. 1, 1897	do	20
Oct. 25, 1867	320,000	Oct. 25, 1867	do	do	
Dec. 12, 1867	1,152,000	Dec. 11, 1867	do	do	24
June 10, 1868	946,000	June 9, 1868	Jan. 1, 1898	do	20
July 11, 1868	320,000	July 10, 1868	do	do	
Aug. 5, 1868	640,000	Aug. 4, 1868	do	do	20
Aug. 14, 1868	1,184,000	Aug. 13, 1868	do	do	37
Sept. 12, 1868	1,280,000	Sept. 11, 1868	do	do	40
Sept. 21, 1868	1,120,000	Sept. 19, 1868	do	do	35
Oct. 13, 1868	1,280,000	Oct. 12, 1868	do	do	40
Oct. 28, 1868	640,000	Oct. 26, 1868	do	do	20
Nov. 5, 1868	640,000	Nov. 3, 1868	do	do	20
Nov. 12, 1868	640,000	Nov. 11, 1868	do	do	20
Dec, 5, 1868	640,000	Dec. 5, 1868	do	do	20
Dec. 7, 1868	640,000	Dec. 7, 1868	do	do	20
Dec. 30, 1868	640,000	Dec. 29, 1868	do	do	20
Jan. 2, 1872	4,120	Nov. 28, 1868	do	do	
Jan. 15, 1869	640,000	Jan. 13, 1869	Jan. 1, 1899	do	20
Jan. 29, 1869	640,000	Jan. 28, 1869	do	do	20
Feb. 17, 1869	640,000	Feb. 17, 1869	do	do	20
Mar. 2, 1869	1,066,000	do	do	do	20
Do	1,333,000	Mar. 2, 1869	do	do	20
May 28, 1869	1,786,000	May 27, 1869	do	do	20
July 15, 1869	1,314,000	do	do	do	100
July 16, 1869	268,000	July 15, 1869	do	do	20.30
Dec. 31, 1869	1,510,000	July 16, 1869	do	do	47.20
Total	25,885,120				737.50

TABLE No. 6.—*Statement showing the amount of bonds issued, etc.*—Continued.

UNION PACIFIC RAILROAD COMPANY.

Date of issue.	Amount.	Date on which interest begins.	Date of maturity.	To whom delivered.	Number of miles aided.
Feb. 1, 1866	$640,000	Feb. 1, 1866	Feb. 1, 1896	T. C. Durant	40
May 7, 1866	400,000	May 7, 1866	....do	B. F. Bunker	25
June 26, 1866	640,000	June 26, 1866	....do	....do	40
July 13, 1866	320,000	July 13, 1866	....do	....do	20
Aug. 9, 1866	560,000	Aug. 9, 1866	....do	....do	35
Sept. 11, 1866	720,000	Sept. 11, 1866	....do	....do	45
Oct. 15, 1866	560,000	Oct. 13, 1866	....do	A. G. Lathrop	35
Nov. 8, 1866	480,000	Nov. 7, 1866	....do	....do	30
Jan. 9, 1867	560,000	Jan. 8, 1867	Jan. 1, 1897	B. F. Bunker	35
June 11, 1867	640,000	June 10, 1867	....do	....do	40
July 6, 1867	640,000	July 6, 1867	....do	....do	40
Aug. 21, 1867	560,000	Aug. 29, 1867	....do	....do	35
Oct. 2, 1867	560,000	Oct. 2, 1867	....do	....do	35
Nov. 5, 1867	560,000	Nov. 5, 1867	....do	....do	35
Dec. 13, 1867	320,000	Dec. 13, 1867	....do	E. H. Rollins	20
Jan. 28, 1868	957,000	Jan. 27, 1868	Jan. 1, 1898	....do	30
May 18, 1868	960,000	May 16, 1868	....do	....do	20
May 19, 1868	960,000	May 18, 1868	....do	....do	20
June 12, 1868	960,000	June 12, 1868	....do	....do	20
June 17, 1868	960,000	June 18, 1868	....do	....do	20
July 23, 1868	960,000	July 22, 1868	....do	....do	20
July 25, 1868	1,841,000	July 24, 1868	....do	....do	40
Aug. 12, 1868	640,000	Aug. 11, 1868	....do	....do	20
Aug. 29, 1868	640,000	Aug. 28, 1868	....do	....do	20
Sept. 7, 1868	1,280,000	Sept. 7, 1868	....do	....do	40
Sept. 23, 1868	640,000	Sept. 23, 1868	....do	....do	20
Oct. 22, 1868	640,000	Oct. 21, 1868	....do	....do	20
Nov. 20, 1868	640,000	Nov. 19, 1868	....do	....do	20
Dec. 7, 1868	1,280,000	Dec. 7, 1868	....do	....do	40
Dec. 15, 1868	640,000	Dec. 14, 1868	....do	....do	20
Dec. 17, 1868	640,000	Dec. 16, 1868	....do	....do	20
Dec. 24, 1868	640,000	Dec. 23, 1868	....do	....do	20
Do	640,000	Dec. 24, 1868	....do	....do	20
July 15, 1870	1,512	Nov. 21, 1868	....do	J. M. S. Williams	20
Jan. 29, 1869	640,000	Jan. 29, 1869	Jan. 1, 1899	John J. Cisco	20
Feb. 10, 1869	1,280,000	Feb. 10, 1869	....do	Union Pacific Railroad Company	40
July 22, 1869	640,000	July 16, 1869	....do	Jno. M. S. Williams	20
Nov. 10, 1869	437,000	....do	....do	E. H. Rollins, $114,000; J. M. S. Williams, $323,000	13.68
July 14, 1870	160,000	....do	....do	J. M. S. Williams	5
Total	27,236,512				1,033.68

KANSAS PACIFIC RAILWAY COMPANY, LATE UNION PACIFIC RAILWAY COMPANY EASTERN DIVISION.

Nov. 1, 1865	$640,000	Nov. 1, 1865	Nov. 1, 1895	John D. Perry	40
Jan. 1, 1866	352,000	Jan. 1, 1866	Jan. 1, 1896	W. J. Palmer	22
May 8, 1866	368,000	May 8, 1866	....do	....do	23
July 9, 1866	320,000	July 9, 1866	....do	....do	20
Oct. 16, 1866	400,000	Oct. 15, 1866	....do	....do	25
Jan. 23, 1867	400,000	Jan. 23, 1867	Jan. 1, 1897	....do	25
May 6, 1867	480,000	May 6, 1867	....do	J. C. Reiff	30
June 11, 1867	400,000	June 10, 1867	....do	Josiah C. Reiff	25
Aug. 13, 1867	384,000	Aug. 13, 1867	....do	J. C. Reiff	24
Sept. 20, 1867	400,000	Sept. 20, 1867	....do	....do	25
Oct. 26, 1867	416,000	Oct. 26, 1867	....do	....do	26
Dec. 3, 1867	320,000	Dec. 3, 1867	....do	....do	20
Jan. 14, 1868	480,000	Jan. 14, 1868	Jan. 1, 1898	....do	30
Apr. 28, 1868	400,000	Apr. 28, 1868	....do	....do	25
June 6, 1868	320,000	June 6, 1868	....do	....do	20
Nov. 5, 1868	223,000	Nov. 2, 1868	....do	....do	13.9425
Total	6,303,000				393.9425

CENTRAL BRANCH UNION PACIFIC RAILROAD COMPANY, LATE ATCHISON AND PIKES PEAK RAILROAD COMPANY, ASSIGNEES OF THE HANNIBAL AND ST. JOSEPH RAILROAD COMPANY.

Date of issue.	Amount.	Date on which interest begins.	Date of maturity.	To whom delivered.	Number of miles aided.
July 27, 1866	$320,000	July 19, 1866	Jan. 1, 1896	S. C. Pomeroy	20
Dec. 7, 1866	320,000	Dec. 6, 1866	do	E. H. Nichols	20
May 2, 1867	320,000	May 2, 1867	Jan. 1, 1897	do	20
Dec. 4, 1867	320,000	Dec. 3, 1867	do	do	20
Jan. 21, 1868	320,000	Jan. 20, 1868	Jan. 1, 1898	do	20
Total	1,600,000				100

SIOUX CITY AND PACIFIC RAILROAD COMPANY.

Mar. 16, 1868	$792,000	Mar. 10, 1868	Jan. 1, 1898	J. I. Blair	49.50
Mar. 30, 1868	320,000	Mar. 30, 1868	do	do	20
Mar. 3, 1869	516,320	Mar. 3, 1869	do	do	32.27
Total	1,628,320				101.77

WESTERN PACIFIC RAILROAD COMPANY.

Jan. 24, 1867	$320,000	Jan. 26, 1867	Jan. 1, 1897	John A. Griswold	20
Sept. 3, 1869	320,000	Sept. 3, 1869	Jan. 1, 1899	C. P. Huntington	60
Oct. 29, 1869	1,008,000	Oct. 28, 1869	do	Jas. H. Storrs, attorney	63
Jan. 27, 1870	322,000	Jan. 22, 1870		C. P. Huntington	20.18
Jan. 8, 1872	560	do		do	
Total	1,970,560				123.18

RECAPITULATION.

Name of road.	Amount of bonds.	Interest to maturity at 6 per cent.	Total.
Central Pacific	$25,885,120.00	$45,786,454.67	$71,671,574.67
Union Pacific	27,236,512.00	48,115,835.85	75,352,347.85
Kansas Pacific	6,303,000.00	11,188,943.09	17,491,943.09
Central Branch Union Pacific	1,600,000.00	2,826,608.26	4,426,608.26
Sioux City and Pacific	1,628,320.00	2,880,935.89	4,509,255.89
Western Pacific	1,970,560.00	3,462,469.74	5,433,029.74
Aggregate	64,623,512.00	114,261,247.50	178,884,759.50

REPORT

OF THE

GOVERNMENT DIRECTORS OF THE UNION PACIFIC RAILWAY.

AUGUST 30, 1893.

SIR: The Government directors of the Union Pacific Railway Company hereby submit their report for the fiscal year ending June 30, 1893.

From a recent examination personally made by one of the Government directors, the results of which have been confirmed to the satisfaction of all of us, we are enabled to repeat with marked emphasis the statement of our predecessors made in their annual report for 1892 as to the excellent physical condition of the system, both as to the main line and the important branches thereof. We are confident at no time in the history of the company have its trackage, siding, and terminal facilities been more complete; the condition and character of its motive power been as good, and the amount of its freight and passenger equipment been as extensive as at the present time. A considerable expenditure has been made in this direction with a view to the preparation for the large traffic which was looked for at the beginning of the present year, and in the interest of economy in the prompt and speedy handling of its freight and passenger business.

But while the business capacity of the road has thus been enlarged and its traffic facilities materially improved, we have to report that its earnings for the fiscal year ending June 30, 1893, both gross and net, have quite considerably decreased. It is hardly necessary for us to give in detail the causes of this decrease. They are the same causes which have diminished the transactions and stagnated the business enterprise of the entire country, and their effects have been so widespread and so manifest that a statement of them would be superfluous.

There has been no addition to the mileage of the company by the construction of new railroads since the last report of the Government directors, except a trifling increase of some 19 miles, which has been caused by the extension of some sidings and the completion of some terminal facilities. Under the stipulations contained in the collateral trust indenture no extensions have been made, no leases or guarantees of any kind have been assumed, no bonds issued, extended, or indorsed upon any part of the system since September 4, 1891, the date of the said instrument.

For the Union Pacific Railway proper the earnings and expenses for the twelve months, June 30, 1892, to June 30, 1893, have been as follows:

	1892.	1893.	Increase+ Decrease—
Earnings	$19,960,011.23	$19,958,058.54	—$1,952.69
Expenses	11,132,153.85	11,531,803.80	+399,649.95
Surplus	8,827,857.38	8,426,254.74	—401,602.64

For the entire system for the same period—

	1892.	1893.	Increase+ Decrease—
Earnings	$44,547,640.39	$44,240,713.27	—$306,927.12
Expenses	28,521,110.25	28,695,792.20	+174,681.95
Surplus	16,026,530.14	15,544,921.07	—481,609.07

It will be remembered that in September, 1891, the company created a collateral trust for the purpose of relieving itself from the pressure of its large and unmanageable floating debt. For this purpose substantially all of the bonds, stocks, and other available assets of the company were transferred to the firm of Drexel, Morgan & Co., as trustees. By the terms of the indenture of trust it was provided that collateral trust notes, properly certified by the trustees, might be issued to the extent of $24,000,000, and that these notes should be applied to the payment or extension of the existing floating debt. At the time of the creation of the collateral trust the floating debt amounted to about $20,000,000. The total amount of collateral trust notes issued was $18,710,000. The estimated value of the property and assets covered by the pledge was $42,000,000. The amount of the outstanding collateral trust notes which have been canceled and retired at the date of this report is $7,280,000. The amount of notes outstanding is $11,430,000. This reduction has been effected by the sale of a portion of the collateral security. The security still held by the trustees has been recently appraised by the company as follows:

The estimated market value of bonds	$17,503,514.60
The estimated market value of stocks	7,160,396.07
Total	24,663,910.67

It must not, however, be inferred from this statement that the trustees have disposed of $17,000,000 of these securities in order to cancel and retire $7,000,000 in notes. Full allowance has been made in the estimates of the present market value for the depreciation in the selling values of these stocks and bonds, and the difference in the estimate of to-day and the estimate made in September, 1891, includes both the securities sold and the allowance made in the decreased market value of the securities still on hand. We are satisfied that a prudent administration of this trust will result in the payment of all the notes outstanding, and leave a considerable equity applicable to other requirements of the company.

The approaching maturity of the subsidy debt due by the company to the United States seems to render imperative the adoption of such measures as will secure the best return possible to the Government

and enable the company to discharge its great functions as a public carrier. The principal of the debt due to the Government matures as follows:

November 1, 1895	$640,000
January 1, 1896	1,440,000
February 1, 1896	4,320,000
January 1, 1897	6,640,000
January 1, 1898	17,342,512
January 1, 1899	3,157,000
Total	33,539,512

Under the decisions of the Supreme Court of the United States it has been held that the interest accruing on these bonds was not payable until their maturity, so that the gross amount of the debt due to the United States consists of the principal above mentioned, and the interest thereon at the rate of 6 per cent for thirty years, which was the period of all of the said bonds. Against this accruing interest the company has been credited from time to time with sundry amounts for the transportation of mail and carriage of freight for account of the Government and with certain cash payments made by the company to the Government under the provisions of the Thurman act. The approximate balance of indebtedness, as it stands to-day, is $55,000,000. This amount, however, is not actually payable until the bonds respectively mature, so that, in order to ascertain the exact present value of the indebtedness, the gross amount to be paid at the maturity of the bonds must be discounted at an agreed rate of interest for the period to elapse between the present time and the date of maturity.

We feel called upon to repeat the recommendations which have so constantly been made by all of the Government directors, that it is for the interest of the Government and of the company, and of the communities which this great railroad serves, to make a prompt, just, and complete adjustment of the financial relations between this company and the United States. This recommendation has constantly been made to Congress in various messages of our Chief Magistrates, and we desire to report as the conclusion of our more intimate knowledge of the condition of this company and of this great railroad property, that it would be for the great interest of all parties concerned to carry into effect the recommendations so made, to the end that a complete settlement of the subsidy debt due to the United States may be made.

Respectfully submitted.

E. ELLERY ANDERSON,
JOSEPH W. PADDOCK,
FITZHUGH LEE,
Government Directors.

Hon. HOKE SMITH,
Secretary of the Interior, Washington, D. C.

REPORT

OF

THE GOVERNOR OF ARIZONA.

EXECUTIVE DEPARTMENT OF ARIZONA,
Phœnix, Ariz., September 1, 1893.

SIR: In compliance with the request contained in your letter of July 18, I respectfully submit the following report on the condition of affairs in Arizona Territory.

The chief difficulty encountered at the outset is the fact that the legislature has made no provision for the collection or compiling of statistics; hence, in some instances general statements must take the place of exact details. Nevertheless, the statistics which are given may be relied upon, and the general statements are treated in a conservative spirit.

During the past year the condition of the Territory has been one of average prosperity. While there have been two commercial failures, and only one in the banking business up to the time of writing, the Territory has experienced the severest depression in some of its most important industries. The shrinkage in the value of silver, for example, has resulted in the closing of almost all of our silver mines. The output for the year was less than $300,000, whereas in 1881, when the output was at its highest point, it reached $6,278,895. Again, owing to the absence of the usual rainfall, extending over a period of two years, there was a loss in range stock reaching, it is estimated, from 50 to 60 per cent. However, this depression has been, in a measure, counterbalanced by the renewed activity which has been experienced in other channels. The depression in silver has stimulated prospecting and mining for gold, with results which it is safe to predict will place Arizona among the leading gold-producing regions of the Union. The loss in range stock has been more or less compensated for by agriculture and horticulture. The increased interest manifested in the reclaimation of arid lands has been most pronounced. Several large irrigation and water storage enterprises have been inaugurated and many more are under way. Vast areas of arid land have been reclaimed to agriculture, which is an evidence that investors are beginning to recognize that this source of investment is at once safe, permanent, and profitable.

The increase in population has been gradual, but confined to the agricultural districts; schools, educational and moral forces have been rapidly acquiring additional strength. Owing to our superb climate the health of our people in every section of the Territory has been without a parallel in the United States.

POPULATION.

The Tenth United States Census Report gave Arizona 40,440 souls, and the Eleventh Census gives it as 59,620, exclusive of Indians. The increase since the last census has been variously estimated at from 5,000 to 10,000. A conservative estimate would place the population to-day at 65,000. The following vote for Delegate to Congress may give a basis as to the growth of population:

1880	7,701	1888	11,538
1882	11,262	1890	11,078
1884	12,491	1892	11,641
1886	10,827		

Thus it will be seen that the vote for 1892 was smaller than it was for 1884. Yet the change of population can not be gauged by this standard, inasmuch as the class of immigrants since the settlement of the Indian question has been one largely of families, whereas previous to that time it was mainly composed of adventurous pioneers. As to the source of the population during the past year, it has been chiefly contributed by the Southern and Western States and has been distributed in the valleys of the Salt and Gila rivers, owing to the extensive reclamation of land in this section. The immigrants are made up of the best class of American citizens, who have brought with them well-matured American ideas, a spirit of thrift, and a love of good citizenship. Hence they are a valuable acquisition. It is fair to estimate that three-fourths of the entire population are native-born Americans, representing every State in the Union. The people have broad and liberal views upon all questions of public concern, social and political.

The following is the foreign population, as given in the census of 1890:

Mexican	11,334	Irish	1,171
English	1,116	German	1,188
Chinese	1,199	French	296
Italian	217	Swedish	168
Danes	180	Scotch	318
Austrian	105	Swiss	144
Welsh	85	Norwegian	59
Russia	53	Australian	38
Spanish	21	Portugese	19
Africa	10	Belgium	17
South America	33	West Indies	14
Holland	17	Poland	13
Hungary	9	Greece	7
Pacific islands	6	Sea	5
Hawaii	3	Japan	3
Atlantic islands	2	India	3
Bohemia	3	Canada	722
Central America	11	Not specified	4

The following is a tabulated statement of the taxable property of the Territory:

County.	Acres of land.	Value.	Value of improvements.	Value of city and town lots.	Value of improvements.
Apache	1,914,125.00	$260,780.00	$59,548.00	$58,526.00	$118,951.00
Cochise	108,980.00	89,073.00	227,243.00	69,747.00	225,387.00
Coconino	511,146.98	213,186.40	65,830.00	87,400.00	146,730.00
Graham	49,084.00	463,808.31	139,353.00	13,068.00	63,711.00
Gila	6,920.00	116,320.00	131,573.00	29,507.00	93,335.00
Maricopa	209,639.00	2,688,480.00	230,745.00	1,993,683.00	700,265.00
Mohave	423.00	16,460.00	137,645.00	8,740.00	30,730.00
Pima	*135,913.00	*142,363.00	168,225.00	338,601.00	739,760.00
	209,603.00	402,053.00			
Pinal	24,607.00	41,012.50	136,590.00	63,936.90	105,973.40
	42,359.44	302,805.25	126,892.00		
Yavapai	228,206.64	324,561.89	171,745.00	214,179.50	377,775.00
Yuma	22,500.00	137,612 00	8,625.00	109,203.00	40,065.00
Total	3,463,507.06	5,198,515.35	1,604,014.00	2,986,591.40	2,642,682.40

County.	Horses.		Stallions.		Mules.		Burros.		Cattle.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Apache	4,620	$114,115.31	.....	.....	23	$620.00	.....	.....	39,933	$310,202.06
Cochise	3,386	69,659.00	19	$1,410	277	9,565.00	59	$335.00	45,056	316,426.00
Coconino	4,781	118,149.72	.....	.....	33	1,490.00	.....	.....	51,315	398,081.07
Graham	3,700	103,008.00	.....	.....	168	5,530.00	.....	.....	64,800	489,583.85
Gila	3,114	69,310.00	.....	.....	72	1,895.00	.....	.....	53,952	405,202.58
Maricopa	6,956	181,575.00	.....	.....	523	13,008.00	.....	.....	22,974	235,274.60
Mohave	2,085	51,535.50	.....	.....	24	1,055.00	.....	.....	26,811	200,835.79
Pima	4,441	92,652.36	.....	.....	283	6,861.00	.....	.....	49,599	347,542.77
Pinal	2,315	50,370.00	.....	.....	229	4,760.00	.....	.....	27,002	203,356.71
Yavapai	8,577	212,469.00	.....	.....	41	1,625.00	.....	.....	107,018	802,228.22
Yuma	367	9,535.00	.....	.....	134	4,635.00	.....	.....	3,352	34,203.00
Total	44,342	1,072,378.89	19	1,410	1,807	51,050,00	59	335.00	491,812	3,742,936.65

*Granted land.

County.	Bulls.	Cows.	Value.	Goats.	Value.	Hogs.	Value.	Sheep.	Value.	Asses.	Value.
Apache	.....	.....	.....	304	$456.00	220	$609.50	120,942	$242,212.30	116	$710.00
Cochise	101	.....	$2,237.00	603	713.00	137	464.00	8,312	16,624.00	.....	.....
Coconino	.....	.....	.....	18	36.00	237	931.50	221,097	445,438.00	42	1,587.50
Graham	.....	.....	.....	559	1,030.00	387	1,117.00	27,311	54,622.00	242	2,273.00
Gila	.....	.....	.....	143	158.00	238	622.00	5,300	10,605.00	235	1,906.00
Maricopa	.....	.....	.....	.....	.....	3,414	10,765.15	15,010	30,305.00	36	1,502.00
Mohave	.....	84	1,360.00	900	900.00	100	279.50	1,250	2,500.00	61	530.00
Pima	.....	.....	.....	170	319.00	408	1,495.00	2,175	4,352.18	123	735.00
Pinal	.....	.....	.....	50	50.00	185	638.00	2,200	4,400.00	121	674.00
Yavapai	.....	.....	.....	1,218	1,891.00	612	1,989.00	18,188	36,381.00	323	3,437.00
Yuma	.....	.....	.....	.....	.....	133	376.00	12	24.00	26	235.05
Total	101	84	3,596.00	4,005	5,553.00	6,071	19,286,65	421,797	847,463.48	1,325	13,589.00

County.	Miles of railroad.	Value.	All other property.	Total valuation.
Apache	111.69	$558,450.00	$162,868.15	$1,888.048.32
Cochise	171.05	1,098,867.73	387,856.50	2,515,607.23
Coconino	121.67	548,350.00	287,175.50	2,314,385.69
Graham	41.00	143,009.44	373,979.00	1,892,002.60
Gila	12.00	37,910.00	163,441.00	1,023,874.58
Maricopa	94.57	605,822.78	810,731.00	7,502,156.53
Mohave	114.377	571,885.00	80,550.00	1,105,005.79
Pima	121.4	766,468.79	957,074.00	3,968,508.10
Pinal	79.79	525,627.52	174,880.80	1,741,967.08
Yavapai	133.84	569,150.00	796,408.47	3,513,840.08
Yuma	80.00	544,240.00	132,034.00	1,020,787.00
Total	1,087.387	5,969,781.26	4,326,998.42	28,486,183.00

It appears from the foregoing that the Territory has taxable property assessed as follows:

3,463,507.06 acres of taxable land	$5,198,515.35
Improvements thereon	1,604,014.00
City and town lots	2,986,591.40
Improvements thereon	2,642,682.40
401,812 cattle	3,742,936.65
421,797 sheep	847,463.48
44,342 horses	1,072,378.89
1,807 mules	51,050.00
1,325 asses	13,589.50
4,005 goats	5,553.00
6,071 hogs	19,286.65
185 bulls	3,597.00
19 stallions	1,410.00
59 burros	335.00
1,087,387 miles of railway	5,969,781.26
All other property	4,326,998.42
Total	28.486,183.00

It will be seen that the valuation is:

Land per acre	$1.50
Cattle per head	7.61
Horses per head	24.18
Sheep per head	2.00
Railroads per mile	5,490.00

Assessed valuation, each year, of the counties of Arizona, from 1883 to 1893, inclusive.

County.	1883.	1884.	1885.	1886.	1887.	1888.
Apache	$1,663,761.00	$1,083,870.00	$1,422,450.00	$2,854,990.94	$2,601,905.28	$2,569,271.80
Cochise	14,722,823.97	11,856,491.86	10,659,646.35	3,050,882.72	3,392,665.19	2,880,012.85
Gila	1,115,495.68	780,752.70	691,685.00	629,678.50	661,984.29	627,333.00
Graham	575,767,00	1,159,518.09	1,139,267.44	1,242,888.10	2,088,583.73	1,588,090.35
Maricopa	1,934,501.00	2,077,980.00	2,266,772.00	2,342,310.00	3,301,056.35	3,999,418.00
Mohave	1,951,529.00	1,756,753.00	1,854,079.00	1,040,780.87	1,688,656.00	2,238,078.77
Pima	4,896,493.62	5,295,906.72	4,282,114.83	3,449,054.53	4,670,784.39	3,813,009.54
Pinal	1,909,852.72	1.721,583.99	1,693,771.85	1,644,087.44	1,842,465.23	1,814,332.00
Yavapai	6,430,329.82	3,686,077.75	3,906,980.17	6,250,853.65	5,225,648.45	5,619,555.22
Yuma	806,306.20	808,831.95	765,845.80	702,391.80	779,757.20	763,913.79
Total	36,006,860,01	30,227,765.97	28,682,612.44	23,206,918.65	26,193,506.11	25,913,015.23

Counties.	1889.	1890.	1891.	1892.	1893.
Apache	(*)	$3,710,554.43	$2,634,288.14	$2,220,262.58	$1,088,048.32
Cochise	$3,313,316.48	2,981,719.89	2,981,769.32	2.840,819.12	2,515,607.23
Coconino			1.975,975.98	2,190,762.74	2,314,385.69
Gila	1,061,263.50	1,183,472.10	1,309,233.20	1,110,036.08	1,023,874.58
Graham	1,557,076.66	1,486,169.99	1,687,797.94	1,654,408.32	1,892,002.60
Maricopa	4,844,801.00	5,583,214.30	5.709,864.74	6,238,325.13	7,502,156.53
Mohave	3,211,084.25	1,185,537.80	1,147,580.07	1,070,380.45	1,105,005.79
Pima	3,840,268.23	3,845.399.56	4,081,279.85	3,994,718.54	3,968,508.10
Pinal	1,851,450.58	1,903,401.53	1,967,974.54	1,731,630.56	1,741,967.08
Yavapai	6,602,885.29	5,319,426.63	4,034,137.99	3,814,684.66	3,513,840.08
Yuma	775,314.16	851,338.50	749,564.51	1,057,134.37	1,020,787.00
Total	27,057,467.15	28,050,234.73	28,279,466.28	27,923,162.55	28,486,183.00

* No returns.

BONDED INDEBTEDNESS OF ARIZONA TERRITORY, INCLUDING THE COUNTIES.

The following tabulated statement from the report of the Territorial treasurer, dated January 1, 1893, exhibits the obligations of the Territory and counties, the interest paid, the indebtedness funded into 5 per cent bonds under the act of Congress:

County.	Issue of—	Rate.	Amount.
		Per ct.	
Coconino County	1891	7	$72,000
Pima County	1887	7	250,000
Pinal County	1890	6	6,000
Do	1885	10	9,000
Graham County	1883	10	15,000
Do	1889	7	50,000
Yuma County	1887	10	110,000
Maricopa County road	1885	7	3,000
Maricopa County insane asylum	1885	7	3,500
Maricopa County B. C. road	1885	7	2,500
Maricopa County railroad	1887	7	2,000
Maricopa County court-house	1883	10	30,000
Maricopa County refunding	1888	7	15,000
Maricopa County hospital	1883	10	5,000
Maricopa County school	1889	7	8,000
Apache County funding	1888	7	100,000
Apache County jail	1883	8	5,000
Yavapai County	1885	7 and 8	448,000
Cochise County	1891	7	195,000
Gila County	1887	7	8,000
Not funded:			
Territorial prison	1879	10	15,000
Do	1880	10	15,000
Gillett and Tiger wagon road	1879	10	20,000
Florence and Globe wagon road	1879	10	10,000
Tucson and Globe wagon road	1879	10	10,000
Agua Fria and Camp Verde	1879	10	10,000
Yuma and Ehrenburg wagon road	1881	10	10,000
Insane asylum	1885	7	100,000
Wagon road and bridge	1885	8	12,000
Gila bridge	1885	8	15,000
University	1887	7	25,000
Funding bonds	1888	6	150,00
Territorial funding bonds	1891	5	1,227,000
Total bonded debt			2,956,000

BONDED AND FLOATING DEBT OF THE TERRITORY OF ARIZONA.

Amount of old bonds outstanding that can not be funded		$392,000.00
New 5 per cent bonds issued for the redemption of bonds of 1883		202,785.00
New 5 per cent bonds issued for the redemption of floating debt incurred prior to January 1, 1891		92,330.00
Floating debt incurred since January 1, 1891, less cash on hand at this date		101,400.00
Total debt		788,515.00
Funding 5 per cent bonds issued to date		1,227,000.00
Amount due from counties	$900,604.23	
Cash and warrants not entered	31,280.77	
		931,885.00
The Territory's pro rata of 5 per cent bonds		295,115.00

AMOUNT SAVED ANNUALLY BY FUNDING THE BONDED AND FLOATING DEBT OF THE TERRITORY WITH THE FUNDS OF 1890.

Amount paid before funding:	
Floating debt, $481,673.66, at 10 per cent	$48,167.36
Bonded debt, $254,000, at 10 per cent	25,400.00
Bonded debt, $24,000, at 6 per cent	1,440.00
Bonded debt, $274,500, at 7 per cent	19,215.00
	94,222.36
Amount paid after funding:	
Funding bonds, $1,227,000, at 5 per cent	61,350.00
Amount saved annually	32,872.00

SETTLEMENT OF LANDS.

From the reports of the United States land offices of this Territory it appears that there were entered under the homestead law 58,403 acres, of which 38,436 were entered at the Tucson office for the southern district and 16,967 in the United States land office at Prescott for the northern district. Under the desert-land law there were entered 88,327 acres, of which 85,983 were entered at Tucson for the southern tier of counties and 2,344 at Prescott for the northern tier. Of the former, 65,043 were entered in Maricopa County and 16,740 in Yuma County. The total acreage entered was 143,730. All of this land is being reclaimed by irrigation. The Tucson land district, not including Indian or military reservations, embraces about 20,000,000 acres of land. The approximate quantity of public lands subject to entry in the Tucson district is about 5,000,009 acres, and the approximate quantity of unsurveyed land in the same district is a fraction over 18,000,000 acres. In the northern or Prescott district an approximate estimate of the unsurveyed lands is 19,000,000 acres. In giving this estimate the register of the land office, the Hon. J. H. Martin, says:

> There is quite a large amount of worthless and mountainous land embraced in this unsurveyed land, but there are some fine valleys and excellent timber land which could be disposed of to advantage to the Government as well as to the Territory by the revenue that it would bring in the way of taxes. With reference to the Tucson or southern district it may be added that a large portion of the unsurveyed as well as the surveyed land could be reclaimed to agriculture by irrigation, the water being supplied from reservoirs, for the construction of which there are many natural sites.

RECLAMATION OF LAND AND IRRIGATION.

Thus far the settlement and cultivation of land has been principally in the valleys on the line of flowing streams. There are probably not more than 10,000 acres successfully cultivated in the Territory without the aid of irrigation, and these are to be found in the northern part in valleys of high altitude. The extent to which irrigation has been developed and land reclaimed is shown by the following figures:

County.	Miles of canals.	Acres served.
Maricopa	346	270,000
Yuma	123	105,000
Graham	202	72,000
Pima	55	12,500
Apache	125	14,000
Total	851	573,500

Gila and Cochise counties have about 7,000 acres of land under cultivation by means of irrigation. Thus it will be seen there are several hundred miles of irrigating canals, reclaiming over 573,500 acres of land. It will be observed that some of the canals mentioned serve a much less quantity of land per mile than others. This is owing to the fact that their capacity is much less. For instance, some of the canals in Maricopa County have a width of from 50 to 75 feet at bottom, and, in fact, are as large as some of the canals of navigation, and the laterals or ditches which run therefrom carry as much water as the main canals in other counties.

Of the 346 miles of canals in Maricopa County 38 miles were constructed during the past year, furnishing 60,000 acres of land with water. With these canals there are also about 2,000 miles of laterals used for the distribution of the water on the land irrigated. As to Yuma County, 24,000 acres of the 105,000 under irrigation were reclaimed during the past year. A canal to be 75 miles in length is being constructed, which will reclaim 161,000 acres of land.

A large amount of the land referred to, while it has been entered in the land office and is being reclaimed, is not yet subject to taxation and does not appear on the tax rolls, as final proof has not been made.

NEW IRRIGATION ENTERPRISES.

In addition to the above there is a number of proposed extensions of canals, construction of reservoirs, and new canal systems, which, when completed, will give in the aggregate 557 miles of canals, carrying water sufficient to reclaim 2,044,000 acres of arid land. These extensions appear to be reasonably certain of being carried to a conclusion, while there are equally as many in a state of formation. The figures quoted give an idea as to the extent to which farming, aided by irrigation, is being conducted in Arizona.

Upon this subject I can do no better than submit the following report from O. B. Thornton, president of the South Gila Canal Company. It is valuable because the statement made applies to a number of other irrigating enterprises as well as to the conditions of agriculture within the greater portion of southern Arizona. The report says:

> The ultimate accomplishment of the South Gila Canal Company will be the reclamation of about 500,000 acres of desert land in Maricopa and Yuma counties, Ariz., divided about nine-tenths in Yuma County and one-tenth in Maricopa, and relatively 180,000 acres south of the Gila River and 320,00 acres on the north side.
>
> The waters of the Gila will be impounded and diverted by a dam 50 feet high, built of solid masonry laid in hydraulic cement.
>
> The dimensions of the dam are 1,400 feet long, 106 feet broad at the base, 13 feet at the top, and 50 feet high. This is the dam now in process of construction.
>
> It is the intention of the company to broaden the base and carry the dam up to a total height of 110 feet, creating a great inclosed lake, impounding water sufficient to copiously irrigate 1,000,000 acres for three years without augmentation from the natural flow of the river. This will be a work supplementary to that which the company has now on hand.
>
> In addition to the main storage above the river dam, the first 14 miles of the canal is a continuous storage reservoir, covering approximately 3,500 acres. This is known as the distributing reservoir in contradistinction to the main or river reservoir. Its capacity is 92,000 acre feet and the main reservoir 160,000 acre feet, making a total of 252,000 acre feet held in storage.
>
> The canal where it leaves the storage reservoir will be 100 feet wide on the bottom with slopes of bank 1½ to 1, with a flow of water 6 feet deep and a grade of 7 inches to the mile. Our engineers adopted this grade in order to avoid erosion in the light loamy soil. The canal travels through the irrigable mesa it is designed to cover, or rather irrigate. As the lateral and distributing ditches are taken out the width will be correspondingly narrowed.

The land proposed to be irrigated south of the Gila River by the present canal is divided about as follows: 18,000 acres river bottom, a deep, rich, sandy loam, and 162,000 acres upland or mesa. The mesa is uniformly a deep, rich, sandy loam, very retentive of moisture. It is smooth and level to an extraordinary degree, the slopes being adapted to easy irrigation without erosion.

The location, being in the extreme southwestern portion of Yuma County and of the Territory, gives this a semitropic climate, which adapts it to the greatest possible range of productions. Wheat, rye, oats, barley, and alfalfa make enormous crops, while the range of fruits is almost illimitable.

All the deciduous fruits adapt themselves to the soil and climate, and mature fully one month earlier than in California. Every variety of the grape family finds congenial conditions for rapid growth and the most beautiful fruitage. Here the fine raisins of Malaga will be duplicated, if not surpassed, and the rich, heavy wines of Spain and Portugal can be imitated to that degree that none but experts can detect the difference.

The citrus fruits will be as conspicuous as at Riverside and Redlands, Cal. But it is not to the orange that people will look for their profits, but rather the lemon. California, while producing a marketable lemon, has never yet produced one of a quality anywhere approaching those of Cicily, which form the standard of excellence in this fruit.

Yuma is the only spot in America that has come up to this standard. This fact has been conceded by those familiar with Yuma's product. The trees grow large and bear heavily. In 1892 the Hon. J. W. Dorrington kept an account of sales from a six-year old tree growing in his grounds in the town of Yuma and found the proceeds to be $56. This year his trees are as heavily loaded as last. One hundred such trees may be grown on an acre of land.

Under the Mohawk Mountains and below the South Gila Canal there are forty sections of land as perfectly adapted to lemon culture as that in the town of Yuma. This land is protected by the mountains from the southwest winds, and is below the frost belt. The soil is deep, gravelly loam, the best possible for the perfection of the lemon and lime and the early maturity of their fruit. That lemon-growers on this belt of land will net immense profits there can be no doubt. One thousand dollars per acre net profit from the sixth year onward will be no fancy figure.

As all who desire lands can not get lemon lands the question arises as to what will be the next best. I should say grapes, and after the grape the peach and apricot.

Leaving the domain of fruit, alfalfa, with cattle, sheep, and hogs, will make an easy going business and one that will net 10 per cent per annum on a valuation of $100 per acre for land and water, the value of stock, improvements, and maintenance added. The accuracy of this estimate can be demonstrated. When the South Gila Canal is completed and the rich lands under it are subdivided and settled upon as in southern California 30,000 population will have been added to the county of Yuma and to the Territory of Arizona. With the North Side Canal built and the land settled up another 40,000 will be added to our population.

Such are the logical deductions drawn from this one enterprise. What then are we to infer when the many other and similar enterprises in Arizona are carried out, as they must and will be in the near future?

THE ARID REGION.

It is estimated that there are 10,000,000 acres of land in Arizona capable of reclamation to agriculture, provided the necessary water can be supplied. How can this be accomplished? The question of the reclamation of the arid region is now one of public concern in the vast section west of the Mississippi River. So important a place does it occupy in the public mind that an international convention is announced to be convened at Los Angeles October 10 for the purpose of considering it in its various phases. Efforts have been made to secure Congressional appropriations for the construction of reservoirs, sinking of artesian wells, etc., to aid in this reclamation.

It has also been suggested that the Federal Government should reclaim these lands and reimburse itself by an increased price for their sale. It has likewise been suggested that a loan should be made by the Federal Government to the Territory or State of sufficient money to reclaim these lands, the Government taking as security for the loan

bonds at 2 per cent interest. Among the many plans offered the following seems to be worthy of consideration:

That Congress be asked to pass an act allowing the organization of irrigation districts, to include the counties now contained in the United States land districts.

The commissioners to be elected by the people of the district to administer the affairs of the district.

That the land officials of the district be authorized and directed to issue to the district commissioners reservoir-lien bonds against each irrigable quarter section of land lying below said reservoirs; these bonds to be payable at the end of twenty-five years and to bear interest at a fixed rate per annum; the bonds to stand as a lien against each quarter section of land and to be assumed by the settler when he shall obtain title to the land; the amount of the bond to be determined by the estimates of the cost of the reservoir and canal system, and the number of acres of irrigable land to be determined by surveys.

All lands to be sold at not less than double the present minimum price and the proceeds applied to the payment of the lien bonds on the land.

The annual water rental to be only sufficient to pay the annual expenses of maintaining the system.

The reservoir works to be constructed under the direction of Government engineers.

In support of this proposition the following arguments are adduced: With the system there would be no chance for monopoly of either the land or water. The works would be constructed by and for the actual settler, who would receive the full benefit. The General Government would incur neither expense nor responsibility. The area of land that can be irrigated from these systems in the Salt and Gila valleys alone is probably 3,000,000 acres. The cost of the work would be about $6,000,000, or a tax lien of $2 per acre. The present value of the water rights is $10 to $20 per acre. The land is all rich and desirable for fruits, grasses, and grains.

THE POLICY RECOMMENDED.

I believe that the most conservative and practical policy, and the one which would bring the best results, would be the ceding by the Federal Government of the arid lands to the Territories or States in which they are located, with such limitations as to their disposal as might be deemed advisable. We are not without precedent for such action. The proposed plan is analogous to that adopted with reference to the swamp lands of the Mississippi Valley. Congress ceded many million acres of land within the States in this region to enable the people to build dikes and levees to protect these lands from the overflow of the river, and thus secure them for agricultural purposes.

If the arid lands were under the control of the Territories or States they could be utilized for securing of capital necessary for their reclamation, by granting each alternate section or less of lands reclaimed as a bonus to the investors.

All these lands, which are now held at $1.25 per acre, would, when reclaimed, sell readily at from $25 to $50 per acre, as experience shows. Another plan would be the sale of bonds secured by the land, the bonds to be redeemed by the sale of the land. For illustration, required $1,000,000 to store sufficient water to irrigate 100,000 acres of land this land under irrigation would readily sell at from $25 to $50

per acre. It would only be sold to bona fide settlers in small holdings, on the installment plan, the money so realized to be used as a sinking fund for the redemption of the bonds. When redeemed the water system itself would belong to the Territory, or to the land it served, according to the law made to govern the same. There is no doubt that if either of these policies were adopted there would be a vast amount of capital anxious to invest in such a safe, permanent, and profitable source of gain. I would add that the States and Territories to which these arid lands were ceded would no doubt readily pay therefor the present Government price $1.25 per acre, this price to be a preferred claim when the lands are sold by the States or Territories.

ITS NATIONAL IMPORTANCE.

This question of the reclamation of the arid lands assumes a national aspect from another point of view. Railroad building has, in a great measure, ceased, and consequently the building of these reservoirs and canals would open up a new channel for capital and would give employment to many thousands of people heretofore engaged in work in constructing lines of transportation. It would also prove a safety valve to the overcrowded cities of the East, where thousands of idle men are seeking employment and homes in vain. It is safe to predict that many of those who would engage in the reclamation of these lands would themselves turn to agriculture, especially in this favored region of the Southwest, where there is almost perpetual summer. Thus a large addition would be made to the taxable property of the States and Territories, and thousands of families provided with farms and homes in this arid region.

TOPOGRAPHICAL SURVEYS.

A few years ago, by the aid of appropriations for the irrigation survey, under the direction of the U. S. Geological Survey, a systematic search for and survey of all available sites for the storage of water was carried on in several of the Western States and in the Territories, but it was not extended to Arizona. Something in this direction is very desirable, but as the appropriations for the purpose have been discontinued I would recommend the extension of the geological surveys to this Territory. The information which would be thus gained would be invaluable in both irrigation and mining operations.

AGRICULTURE.

It is only within the last few years that the agricultural possibilities of this Territory have come to be realized. Yet it is doubtful if there is a section of the country where the virgin soil is so full of vitality or gives such bountiful returns to the farmer as the valleys and mesa lands of this Territory when brought under the fructifying influences of irrigation, which is the system of farming prevailing exclusively throughout this region. This system yields the very best results. Under it the farmer is not required to wait for rain in order to plow, sow, or cultivate. The crops come to a higher degree of perfection than in sections of the country where the condition of the elements affects the products of the season. Two crops a year are not uncommon in our principal valleys. Hay, especially alfalfa, is cut from four to six times annually. All the cereals, fruits, and vegetables grown in the temper-

ate and semitropic zones flourish here. Cereals give a yield of from 30 to 60 bushels per acre, according to the location. Alfalfa (French lucerne) grows luxuriantly, producing from 6 to 8 tons of hay per acre per year.

It is not difficult to understand that under such conditions agriculture and horticulture become most profitable industries. The fruit product, especially the grape in the Salt River Valley, yields a much greater supply than is necessary for the home demand. During the present year the raisin-grape crop in the valley mentioned amounted to 1,000 tons. Of this quantity about 800 tons will be cured, the balance being shipped to the Eastern market. One of the great advantages of horticulture in Arizona as compared with any other section is that fruit of all kinds matures from one month to six weeks earlier, not excluding even the most favored spots of California. Last season the Maricopa raisin producers shipped their first car load of raisins one month earlier than the Pacific coast fruit-growers. The same can be said of the products of Yuma and Pinal counties. The fig crop and similar fruits are shipped from these points to California a month earlier than they are from the home orchards and vineyards. Hence, great strides have been made during the year in planting orchards and vineyards with a view to supplying the outside markets. Thus far there has been nothing in the nature of insects to interfere with the healthy growth of our vines or citrus fruits. The fact that the climate is void of humidity and that, as a rule, the grape crop is cured before the arrival of the rainy season, is an important consideration and warrants the prediction that Arizona will be the largest raisin-producing section of this country. As much, I believe, is admitted by California.

FRUIT INDUSTRY DEVELOPMENT.

The result of the facts stated is that a great many farmers are coming into the Territory with the view of developing the fruit industry, and they are rapidly beginning to understand that 1 acre of land in Arizona, cultivated by means of irrigation, gives a greater profit with much less toil than 10 acres in the States east of the Mississippi Valley.

The agricultural lands are chiefly confined to the counties of Maricopa, Yuma, Graham, Pinal, Pima, and Apache, although all the other counties have more or less agricultural districts. It is through the counties named, however, that the streams flow from which water is diverted for irrigation purposes. While the area of land reclaimed by irrigation from surface streams during the year has been very large, quite *a number* of experiments have also been made with pumping machinery of various kinds, and with some degree of success. Especially is this the case in the Sulphur Springs and Santa Cruz valleys, where the underflow is from 10 to 20 feet beneath the surface. If this system prove a success many additional acres of land will be reclaimed to horticulture.

For more detailed information on the subject in general, gathered from experience and observation, I submit herewith the report of F. A. Gully, professor of agriculture at the Territorial University and director of the United States experiment station. The report is as follows:

> The agricultural department of the University of Arizona, which includes the agricultural experiment station, has, for the past three years, been making a careful study of the agricultural conditions and possibilities of the Territory, and has secured valuable data in regard to the development of the agricultural interests.

SOILS AND WATERS.

Examination of the soils, repeated analyses of the waters of the streams during all the seasons of the year that are and may be used to supply the water for irrigation, and of underground water that lies within practicable pumping distance from the surface, as well as examination of the sites where large quantities of the surplus water that now runs to waste during the rainy season and when the snow melts in the mountains may be stored in reservoirs until needed, shows that while large areas of land are now cultivated still greater areas may be reclaimed. Repeated chemical tests prove that the waters of all our streams are good irrigable waters, and that some of them contain considerable quantities of valuable fertilizing elements.

There is fertile land and sufficient water to furnish homes for a large population. People are coming in rapidly from elsewhere in the country and making homes on new land. In the Salt River Valley alone the acreage of land under cultivation increased from 65,000 in 1890 to 150,000 in 1893, the increase being largely in small farms. From one station on the Phœnix and Maricopa Railroad line, a feeder of the Southern Pacific, there was shipped out in 1892, 2,955 tons of hay, 1,699 tons of wheat and barley, 276 tons of flour, 2,761 tons of cattle, and this not the principal shipping point on the line.

AGRICULTURAL ADVANTAGES.

Farmers, fruit growers, and gardners in Arizona have a decided advantage over men engaged in like occupations in the Central, Northern, and Eastern States, and, in fact, in the Southern States, where crops depend on rainfall. On all of the valley lands crops are growing eleven months in the year. The winter consists of a few days in December and January, when there may be light frosts at night. In addition to the almost perpetual crop-growing seasons on these irrigated lands, the farmer has the additional advantage of being free from droughts and floods. He turns on the water when the crop requires it, after growing two crops in one year on the same land, and his harvest, always large in yield if he gives his work proper attention, is turned off with the certainty and regularity of the output of a manufacturing plant. Unlike farming where a good crop is dependent upon timely rainfall, the Arizona farmer makes his seasons to fit the requirements.

VARIETY OF CROPS.

The climate and soil of Arizona are adapted to all the crops of the country. With almost no exception, the crops of every other State in the Union are grown and yield as much or more per acre and of as good quality.

Cotton and sugar cane are as certain and productive as in the Gulf States, the small grains as in the North and West, vegetables and fruits as in the most favored localities; while the race and draft horse are grown and bred here, and have equal speed, strength, and weight, and all the breeds of cattle do equally well.

Even the dairy interest is not lacking, as private creamery and factory-made butter and cheese are made in considerable quantities and of fine quality. A good many of the large Holstein and more diminutive Jersey cows have been brought in, and thrive as well and give as much milk and make as much butter as in the Mississippi Valley.

Many a farmer coming from the Eastern States is surprised to find Shorthorn, Hereford, Devon, and Polled cattle as large, sleek, and fat as in Illinois, and to learn that creameries are in operation; but such is Arizona to-day.

Poultry of all kinds thrive well, and it is the paradise of bee-keepers. The apiarists have a strong organization and market their honey, which has a high reputation in the East, in car-load lots.

While Arizona grows all of the farm products of other States, it affords special advantages for the production of certain things which are made more profitable than the staple crops of the country.

For the stockman and dairyman it provides a climate for growing alfalfa and the sorghums, for grazing and for forage, unequaled elsewhere.

The long season, warm and dry atmosphere, and almost no cloudy weather supply the essential climatic conditions to grow these two crops in the highest perfection.

The same climatic conditions are also most favorable for the production of a great variety of fruits of the finest quality. This has led to planting orchards, and the growing, shipping in the green state, canning and drying, and sale in the east, of fruits by the car load, and the business is rapidly extending.

During the past two years attention has been given to early vegetables and small fruits, especially in the southwestern part of the Territory, in the lower Gila and Colorado River valleys near Yuma.

This region has the lowest rainfall, (about 3 inches per year) the driest atmosphere, and the least cloudy weather during the winter and spring months of any portion of the country. The hardier vegetables, such as cabbage, cauliflower, and green peas, may be marketed at any time during the winter, asparagus and strawberries in February, tomatoes, cucumbers and squashes in March and April, and melons soon after.

In growing early vegetables and fruits for market, Arizona enjoys a monopoly that can not be wrested from her; in her dry, warm air, and exemption from cloudy weather during the winter and spring. Sunlight and dry air are necessary for the production of vegetables and fruits of the best quality, and when matured and packed under such conditions they will stand long transportation without deterioration.

The early vegetables and fruit grown along the Gulf coast—the earliest to reach northern cities—lack quality and flavor; maturing in a cloudy and moist climate, they must be gathered green and kept at a low temperature until they reach the consumer; and at best but a few people are willing to pay high prices for an inferior article to secure it a little in advance of the regular season.

Consignments of early vegetables and fruits from Arizona to Chicago and cities further east during the last two years have reached consumers in advance of all others, and of a quality never produced elsewhere for earliest shipments.

The demand for such products, and at high prices, is large and increasing, and this branch of agriculture promises to assume large proportions, as there is a large area of the Territory adapted to the work.

The latest plant to receive attention is new to farmers and to consumers, but it bids fair to become one of our leading crops. A wild plant that grows through southern Arizona and New Mexico, in moist spots here and there, known as canaigre (botanically—*Rumex hymenosepalus*), produces roots that contain, when dry, from 25 to 30 per cent. of tannic acid. The roots have been used by the Mexicans for the last hundred years in tanning hides, in a crude way, but have not received the attention of tanners until recently. During the past three years the roots have been thoroughly tested, and it is found they will make leather equal to oak and hemlock and other tanning products used in the trade.

Some 10,000 tons of roots of wild growth, after drying, have been gathered and used by tanners, mostly in Europe, since 1890, so that the merits of the plant are becoming known.

Seeing that the accessible wild growth would soon be exhausted the agricultural experiment station of Arizona began making experiments two years ago to learn more of the value of the plant and what could be done with it under cultivation. Samples of wild growth from all over the region where it is found were collected and tested and the roots planted and cultivated on various soils in different places to learn soil requirements, and at the same time experiments have been made to learn if the tannin could be extracted from the roots and placed in concentrated form for more economic transportation.

It is found that the greater part of the irrigable lands of southern Arizona are adapted to the growth of this plant, and that with proper cultivation and irrigation it will yield from 10 to 15 tons of roots per acre, and the cost of growing will not exceed $2 per ton.

The tannin may be taken out of the roots and a liquid extract, containing from 35 to 45 per cent of tannic acid, made, or a dry extract, containing from 60 to 65 per cent of tannic acid, with suitable apparatus. The liquid and dry canaigre extracts are worth in the markets from $75 to $120.

The investigation has been thorough, and canaigre plantations are being started. An extract factory has recently been started in Deming, N. Mex., the extract placed on the market, and a number of tanners are beginning to use it.

So far as known, canaigre grows only in the hot, arid climate.

The agricultural development of Arizona is in its infancy, but the experimental stage of determining that its climate and soil are adapted to a number of specially valutable products, in addition to the usual farm crops and fruits of the country, is passed.

Two of the grand trunk lines of railway intersect the Territory east and west—the Southern Pacific and the Santa Fe systems—and from them branches have been and are now being built, so that ample facilities for shipping to the two seaboards and interior cities are assured.

RAILROADS AND COMMERCE.

There are now nine railroads being operated in the Territory, as follows:

	Miles.
Southern Pacific of Arizona	383
Atlantic and Pacific	393
New Mexico and Arizona	87
Prescott and Arizona Central	73
Arizona and New Mexico	38
Arizona and Southeastern	36
Prescott and Phœnix	60
Maricopa and Phœnix	34
Total	1,104

The Southern Pacific passes along the southeastern part of the Territory from Yuma, on the Colorado River, to the eastern boundary of Cochise County, passing through the counties of Yuma, Maricopa, Pinal, Pima, and Cochise.

The Atlantic and Pacific crosses north of the center of the Territory, near the thirty-fifth parallel, and passes through the counties of Apache, Yavapai, Coconino, and Mohave.

The New Mexico and Arizona runs from Benson, on the Southern Pacific, in Cochise County, to Nogales in the same county, at the Mexican line.

The Prescott and Arizona Central runs from Prescott Junction, on the Atlantic and Pacific, to Prescott, and is all in Yavapai County.

The Arizona and New Mexico runs from Clifton, in Graham County, to the Southern Pacific, at Lordsburg, N. Mex.

The Arizona and Southeastern runs from Bisbee, Cochise County, to Fairbanks, on the New Mexico and Arizona, in the same county.

The Maricopa and Phœnix runs from Maricopa, Pinal County, on the Southern Pacific, to Phœnix, Maricopa County.

The Santa Fé, Prescott and Phœnix runs from Flagstaff, on the Atlantic and Pacific, southward for 30 miles in the pine forest.

This last-named road was constructed principally to carry lumber from the pine regions. It is believed, however, that it will sooner or later be extended southward to Globe, and thence to a connection with the Southern Pacific Railroad, going, in all probability, by San Carlos up the Gila Valley to Bowie Station on the line mentioned.

During the year the Santa Fe, Prescott and Phœnix Railroad was constructed from Ash Fork to Prescott, a distance of 60 miles. It is proposed to extend this line to Phœnix, Florence, Tucson and Nogales, connecting with the Santa Fe road at the last-named point and terminating on the Gulf of California at Guaymas, thus connecting this portion of central Arizona with one of the most important ports on the Pacific coast.

The advantages arising from the construction of this road will be very great, as it will pass through the richest agricultural regions of the Territory and will be in the immediate vicinity of a continuous series of mining districts.

This will bring about an interchange of home products between the mining and the agricultural districts and northern and southern Arizona, keeping in home circulation a large sum of money which is annually sent to foreign markets for products of the soil which, owing to the lack of transportation facilities, is not now purchased in the Territory.

CUSTOMS.

The following statement from the Hon. S. F. Webb, collector of customs at Nogales, Ariz., will show the business of this customs district for this fiscal year:

Imports of foreign commodities into the district of Arizona for the year ending June 30, 1893.

Dutiable commodities	$143,735.00
Free of duty	3,751,805.00
Total importations	3,895,542.00
Duties collected	60,673.71

Ore importations.

	Value.	Rate per pound.	Duty.
		Cents.	
Gold in ore	$588,472.00	Free.	None.
Silver in ore	1,944,899.00	....do....	Do
Lead in ore	68,854.00	1	$41,834.50
Copper in ore	19,281.00	1	1,917.13
Total	2,621,406.00	.....	43,751.63

The importations of gold and silver bullion and coin during the same period were as follows:

Gold bullion	$511,452.00
Silver bullion	383,522.00
Mexican silver dollars	333,763.00
Total	$1,218,436.00

A comparison of these figures with those of last year is of interest:

1892:		
Dutiable imports	$135,455.00	
Gold and silver in ore	1,454,008.00	
Bullion and coin	1,228,737.00	
Total		$2,818,200.00
1893:		
Dutiable imports	$143,735.00	
Gold and silver ore	2,533,371.00	
Bullion and coin	1,218,436,00	
Total		3,895,542.00
Increase of imports for 1893		1,077,342.00

This increase occurred as follows:

Dutiable imports	increase..	$8,280.00	
Gold and silver ore	do....	1,079,363.00	
		1,087,643.00	
Bullion and coin	decrease..	10,301.00	
Total net increase			$1,077,342.00

Duties collected for 1893	60,673.71
Duties collected for 1892	49,998.45
Increase for 1893	10,675.26

It will be observed from this report there has been an increase of imports over that of last year of $1,077,342 and an increase of duties collected of $10,675.26.

The border of this customs district to be guarded is 450 miles in length, the line traversing a mountainous and desert country sparsely populated throughout the entire distance. Crossing this line is one railroad and about a dozen wagon roads and innumerable pack trails, besides which there are several long level stretches, over which wagons or pack animals can easily make their way without following any public path. It is an ideal region for smugglers, and that the facilities it offers for the carrying on of clandestine trade are very largely taken advantage of by a lawless border element can not be doubted. To guard this long line but nine inspectors are employed, giving to each an average section of fifty miles in length to protect.

GREATER PROTECTION NEEDED.

It is generally believed that a large amount of illicit trade is carried on at different points along the line. An increased force of line riders would add considerably to the duties, as opium, mescal, sugar, and other foreign commodities are believed to be smuggled to a large extent. It has been frequently found that quantities of opium have been landed at Guaymas. At one time the shipment reached the point of 30,000 pounds. What became of it is not known. It is believed, however, to have been brought into the States via the head waters of the Gulf of California and the Colorado River. Attention is also called to the fact that many Chinese are smuggled through this line. At one time no less than thirty were captured in one batch, and were returned to China at great expense to the Government. From the best information I can gather this illegal traffic is continued without abatement. There is no doubt that the extra amount of customs which would be collected by properly guarding the line would repay many times the cost. The importance of the district can be understood from the increased revenues of last year.

BANKS.

There are five national banks in Arizona and ten private concerns, all save one have withstood the stringency. There are also several prosperous building and loan associations, that in Tucson comparing favorably with any in the eastern cities. The value of money ranges from 8 to 18 per cent per year on good securities. Previous to this year the value ran from 10 to 24 per cent.

STOCK-RAISING.

It is difficult to find an area of country in any part of the world better adapted to pastoral pursuits than the grazing lands of Arizona, situated as they are at a certain elevation above sea level throughout the Territory, for to a climate having no extremes, neither summer nor winter, is added a limestone soil, a good water supply, and an abundance of grasses generously distributed by nature from the banks of the streams in the valleys to the highest peaks of the mountain ranges.

EXTENT AND CHARACTER OF GRAZING AREAS.

The principal grazing areas of Arizona are in Pima, Cochise, Graham, Apache, Coconino, and Yavapai counties, and they vary in elevation above sea level from about 2,500 to 8,000 feet.

The range country in the southern counties of the Territory is one

vast plateau from which rise great mountain ranges parallel to each other, usually with one common trend of north and south.

The valleys that lie between these ranges are in many instances of great extent. The Sulphur Spring, the San Simon, and the Baboquivori valleys appear each as a vast plain; the mountains bordering them, though of great height, are dwarfed by the great space that lies between. Each is the hydrographical basin of an immense section of country.

From the main basin innumerable valleys of varying extent branch out, contracting in the canyons and ravines as they enter the foothills of the mountains.

The great table-lands or mesas leading out in a gradual descent from the mountains, presenting in the distance one level plain, are penetrated in every direction by these valleys, dwindling gradually as they reach higher ground.

The whole country is covered with grass, and is treeless until the foothills and the mountains themselves are reached. Here a forest of live oak with green foliage, summer and winter, commences and extends to the summit of the mountains, devoid of undergrowth, and presenting a park-like appearance. From the timber line at their base to the tops of the highest peaks the grass continues to flourish luxuriantly. The country possessing this character of topography is the paradise of range cattle. The general landscape of the grazing regions of the northern counties of Arizona is in many respects similar to that of the south, except, perhaps, where it approaches great elevations, when it becomes heavily timbered with vast stretches of cedar and pine forests.

RAINFALL.

The average rainfall in these grazing regions of Arizona is from 12 to 16 inches; the chief rainfall of the year takes place between the middle of June and the 1st of October. During the summer months it is usual for heavy rains, accompanied by lightning and thunder, to prevail from day to day in the form of showers, frequently culminating in cloud-bursts that pass over the country, depositing moisture first in the mountain districts and on the high mesa lands, and later on, as the season advances, in the valleys and plains below.

These storms, though tropical in a certain measure in their nature, are rarely destructive of life and property and produce vegetation of all kinds with an astonishing degree of rapidity.

PRINCIPAL FORAGE GRASSES.

The principal forage grasses of Arizona that grow to maturity during the rainy season are the black grama (*Bouteloua erispoda*), to be found principally south of the Gila and Salt rivers; the white grama (*Bouteloua oligostachya*), which predominates in the valleys and on the high table-lands of southern Arizona, and the buffalo grass (*Buchloëdactyloides*), which, while indigenous to many parts of Arizona, is most abundant in the northern counties of the Territory. On the rich bottom lands of southern Arizona, generally in the vicinity of water, it is never seen growing in the open mesa. There is also found the sacaton grasses (*Muhlenbergia distichophylla*), strong and deeply rooted and in some instances of such a height as to hide from view the tallest man. The fresh, tender leaves of this species of grass is much sought after by cat-

tle in early spring, while the seed is eagerly devoured by both horses and cattle in the fall.

Next in value to the grasses named is the Gietta grass (*Hilariamutioa*) found growing in bunches and widely distributed throughout southern Arizona in less elevated and more arid parts of the country. There are numerous other grasses that add more or less to the feed on the open ranges of Arizona, but as a rule they are less abundant than the species named.

All of the native grasses contain a large quantity of nutritive matter, many of them even more than the more succulent grasses of the East, and when untouched by frost in the process of curing, or uninjured by excessive moisture after being cured, possess fattening qualities that can not be excelled. The grasses on the open range mature seeds and commence to cure rapidly in the stalk throughout Arizona toward the end of September, which is generally the extreme limit of the rainy season.

In this condition they become the staple food of horses, cattle, and sheep, until it is succeeded by the new crop the following year. The value of the many varieties that are to be found everywhere in the Territory, and the extent to which they can be cultivated, with and without irrigation, and their respective worth when produced, is engaging the attention of the Arizona Agricultural Experiment Station at Tucson, under the capable supervision of Director Frank A. Gully, to whom I am indebted for much information on the subject.

WATER SUPPLY.

The water supply on the ranges exists everywhere throughout the Territory in great abundance during the rainy season.

In the dry season the permanent water courses of the valleys and the springs and smaller streams in the mountains are the main dependence of the cattle owners in the southern part of the Territory. Here it is only in limited localities in the grazing districts that water for the stock has to be obtained in wells by steam power or windmills. In northern Arizona, however, in addition to having the permanent water courses and wells as the water supply, large reservoirs have been created, with a most satisfactory result, to catch the storm floods during the rainy season and the water from the melting snows in the spring.

This system of water supply for grazing purposes will probably be utilized more in time in other parts of the Territory.

The value of a cattle range consists not only in the quantity and the quality of the grass and browse it possesses, but also in its proximity to water. The nearer the feed and water are together, or can be brought together by artificial means, in an equal proportion, the more is a ranch and its belongings enhanced in value.

Much private capital has been expended in Arizona to this end, but there are still many ranges where cattle at certain periods of the year have to travel great distances from the feed to water; and during a scarcity of feed in the dry season this fact has been a fruitful source of great mortality among the weaker classes of cattle, such as old cows and both young and old cows with sucking calves.

UNFAVORABLE CONDITIONS OF THE LAST TWO YEARS.

The cattle industry of Arizona during the last two years has shared all the terrible privations that the industry has had to bear throughout the Union, caused by the ruinous shrinkage of values, and in addition thereto it has had heavy burdens to experience in meeting local casualities due to a destructive drouth and overstocking the ranges, which there appeared to be no possibility of avoiding, even by those possessing capital and thorough knowledge of the business.

The completion of two transcontinental railways through northern and southern Arizona in 1880 and 1881 suddenly opened up indirect communication with the great cattle markets of the country a vast grazing region in Arizona, untouched and of unsurpassed excellence, and the opportunity was seized by eager capitalists, both at home and abroad, to invest their capital with ill-judged haste in the new El Dorado. Thousands of cattle immediately subsequent to the completion of these lines were imported into the Territory from Mexico and from Utah and Texas. For some years, with virgin pastures, the 3 and 4-year-old steers were turned off in large numbers every fall from the ranges, soon after the expiration of the rainy season, and disposed of in the local markets and in California as prime beef, bringing profitable prices, and the business greatly prospered. As the herds increased, however, through importations and through their own offspring, the grass supply soon diminished throughout the Territory to such an extent that it was impossible to mature prime beef any longer on the open ranges, and the cattle owners were forced, at great pecuniary sacrifices in most instances, to sell their steers as feeders at greatly reduced prices to buyers from California, Montana, and Kansas.

SHIPMENTS OUT OF THE TERRITORY.

The steers from 2 to 5 years old, as recently as last spring, have been purchased by thousands and shipped to these States at considerable profit to the middleman, and are there to be matured for market. The cattle owners, realizing that the ranges were dangerously overstocked and much loss in various ways was directly due to overcrowding, have made an earnest effort during the past two years to relieve them of every class of cattle that could bear shipment.

While I have no accurate data at hand giving the exact number of cattle shipped, it is estimated that over 200,000 head, consisting of all classes, were shipped from Arizona to California, Nevada, Montana, Kansas, Nebraska, and Texas during the year ending June 30, 1893.

The severe drought that has prevailed in consequence of a greatly diminished rainfall during the last two rainy seasons has served to hasten these shipments and greatly add to the number of cattle sent away. Such has been the shrinkage however in the value of certain classes of cattle that the price received for them did not permit their owners to incur the financial risk of relieving their ranges to the extent that was desirable to escape disaster, even though the railroads penetrating the Territory made special rates "for starving cattle," and a serious loss has been thus experienced in every county of the Territory during the past year, due primarily, it is true, to the drought and overcrowding, but which the low price of cattle and the heavy cost of marketing them gave absolutely no relief from.

NUMBER AND VALUE OF CATTLE ASSESSED IN THE TERRITORY 1883 TO 1893.

I submit tabulated statements below that give the number and value of the live stock of the Territory as rendered by the counties to the Territorial Board of Equalization each year since 1883 to 1893:

Cattle.

Counties.	1883.		1884.		1885.		1886.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
Apache	14,700	$147,000	(*)	.....	24,274	$333,355	38,461	$485,784
Cochise	(*)	.....	33,605	$415,865	.....	692,628	60,492	708,886
Gila	7,257	131,150	8,497	160,881	9,450	162,939	15,970	201,389
Graham	10,088	176,540	17,167	307,984	22,086	339,629	29,217	444,542
Maricopa	4,481	55,772	5,974	98,740	7,680	127,679	9,586	147,832
Mohave	9,537	145,342	9,850	147,765	14,218	213,270	15,556	205,988
Pima	57,600	864,000	80,000	1,200,000	70,000	885,000	66,500	764,750
Pinal	14,281	251,135	21,513	Not val.	28,383	434,116	28,566	335,696
Yavapai	49,132	608,304	64,008	832,104	89,688	1,030,512	116,286	1,279,146
Yuma	1,897	18,713	2,066	22,660	2,030	19,097	3,111	34,681
Total	168,973	2,397,956	242,680	3,185,999	267,899	4,238,225	383,745	4,608,694

Counties.	1882.		1888.		1889.		1896.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
Apache	54,297	$649,484	65,472	$699,878.94	(*)	.....	68,927	$585,897.50
Cochise	73,285	879,420	73,294	769,587.00	94,021	$819,863.12	83,792	691,041.42
Gila	17,101	205,528	19,984	201,196.00	42,282	431,914.00	49,738	452,645.10
Graham	37,089	491,767	45,541	478,180.50	36,855	375,180.00	55,623	507,438.00
Maricopa	9,505	124,237	12,698	167,893.00	15,514	223,808.00	23,843	231,065.30
Mohave	23,172	281,808	20,752	254,212.00	22,317	280,067.75	24,020	221,612.00
Pima	83,234	999,892	94,734	1,012,290.00	109,206	952,961.50	113,974	885,280.50
Pinal	34,386	408,785	31,460	330,554.70	39,347	401,432.00	40,032	348,399.00
Yavapai	131,259	1,608,552	145,058	1,710,323.00	159,773	2,005,151.15	172,627	1,370,814.50
Yuma	3,510	41,992	3,340	35,411.00	3,378	29,456.16	3,445	27,630.00
Total	466,838	5,691,467	512,333	5,720,526.14	522,747	5,519,833.68	636,016	5,321,823.32

Counties.	1891.		1892.		1893.	
	Number.	Value.	Number.	Value.	Number.	Value.
Apache	74,132	$630,112.00	49,314	$480,078.00	39,933	$310,202.06
Cochise	95,850	756,992.25	82,122	647,075.00	45,056	316,426.00
Coconino	55,062	405,825.00	58,428	408,803.00	51,315	398,081.07
Gila	58,645	496,470.45	55,828	451,630.09	53,952	405,202.58
Graham	66,730	585,718.50	68,526	620,044.00	64,800	489,583.85
Maricopa	26,509	254,350.95	24,506	230,925.00	22,974	235,274.60
Mohave	29,360	252,155.00	28,572	210,096.00	26,811	200,835.79
Pima	121,377	960,892.12	116,604	852,097.00	49,599	347,542.77
Pinal	48,565	403,551.78	35,102	254,747.00	27,002	203,356.71
Yavapai	142,460	1,205,057.70	121,392	853,562.00	107,018	802,228.22
Yuma	2,250	19,461.60	3,815	38,150.00	3,352	34,203.00
Total	720,940	5,970,587.35	644,209	5,047,207.00	491,812	3,742,936.65

*No return.

ADVANTAGES OF EXPERIENCE TO THE FUTURE OF THE BUSINESS.

While the item of live stock adds in a very material degree to the assessable values of most of the counties of the Territory, and their serious falling off in this direction in certain counties, as shown above, may perhaps temporarily embarrass for a few years two or three of the county governments in raising the customary revenue, the decrease, though an unfortunate thing as an investment to the individual, will

not be without benefit to the Territory as a whole and even to the industry itself.

A trying experience has taught the cattle owners of Arizona many things that will be of value to them in their business in the future. They invested their capital in a country that was new to the American; they had much to learn by their own personal observations and by their own personal experiences.

Such is the history of the cattle industry of every new country in its experimental stage. But it has now passed that stage in Arizona, and will advance hereafter on a more secure footing, avoiding the mistakes of the past. It has been clearly demonstrated, for example, that with the most favorable seasons the best ranges will only carry a reasonable number of cattle, and that overcrowding not only destroys the grasses, but that the cattle themselves, in spite of great care in breeding, deteriorate rapidly in physical development with scarcity of feed. The calf, unable to acquire a proper degree of nourishment from an improperly fed mother, advances to the state of a yearling undeveloped and rough, and possesses the same disadvantages when he enters the market as a steer, and is an objectionable and unsatisfactory commodity to both prepare for the market and to sell. There will be better grades of cattle grown in the future, and much more attention will be paid to quality. The business will not be conducted so loosely as in the past; more conservative methods will be adopted and less risks taken. Those who had no knowledge of the business and entered it, for the time being, for purely speculative purposes have been weeded out. There are reduced freight rates on the railroads, and many other advantages of an encouraging nature I might name that have their value.

PRESENT RANGE CONDITIONS.

All reports of the Signal Service regarding the rains this summer up to the present are concurrent "That the meteorological conditions have been unusually favorable to all interests affected. The ranges are already in excellent shape in nearly all sections, and in some districts are reported as being in better condition than they have been before in many years. Cattle are fattening rapidly, and the outlook with reference to live stock interests throughout the Territory has undergone great improvement since the advent of the rainy season."

In nearly all districts, owing to overstocking, many weeds have taken the place of the best grasses. In other places where ten years ago the end of the wet season would find a rich growth of grass, now it is of inferior quality, of less quantity, or does not exist at all. This injury to the range, however, is not regarded as permanent. With the decrease of cattle now noticeable everywhere a few favorable seasons, it is thought, will replace the grasses that have disappeared.

BREEDING AND INCREASE.

The system of the handling of cattle on the ranges in Arizona is similar to that of all the western States. Except when the condition of the cattle does not permit it, public round-ups are held both in the spring and fall. It is upon these occasions that the increase of the herds is branded and the steers are gathered for market. There is no extreme cold in southern Arizona and very little in northern Arizona save for a short period during midwinter in the most elevated portions of Yavapai and Coconino counties. There is no part of the Territory

where cattle can not be gathered any month of the year off the ranges Arizona is exempt from blizzards and entirely free from all contagious diseases among cattle. Since 1880 rapid strides have been made in the improvements of the herds of the Territory. At that time about the only cattle here were those of the Mexican or Spanish origin. The first improvement made was the introduction of the Shorthorn; but the great and noticeable improvement has been made by the introduction of the Herefords, they being essentially grass-fattening animals, and finding themselves at home upon every condition of mesa, mountain, and valley range. Experiment having proven them superior in every desirable quality, they are being introduced on all ranges as fast as possible. Before the ranges were eaten out, from the combined effect of drought and overstocking, accurate accounts upon the largest ranches showed a yield of from 90 to 95 per cent, counting 2-year old heifers as producers, while last year these same ranches produced only 10 per cent, and it is estimated that the yield this year will not be over 5 per cent. As a breeding country Arizona can not be excelled. Owing to the low price of cattle there has been some tendency in the northern counties to substitute cattle for sheep on the open ranges. It is only however in a limited portion of the Territory where a change of this sort is anticipated.

LEGAL TENURE TO GRAZING LANDS WANTED.

The cattle industry must always remain one of the great industries of the Territory; those engaged in it are among the most intelligent and deserving citizens we have, and I would recommend the enactment of such laws by Congress as will secure to all stockmen on the public domain legal tenure of the lands they use, at the same time guarding against any monopoly. A large portion of the Territory consists of dry mesas which have been used as stock ranges from the first settlement of the country and must be so used for years to come. At very small expense the land department of the Government could segregate these lands, suitable only for pasture, from the valleys and fertile mesas, after which being done, they could be leased to the stockmen, who, consulting their own interests, would never overstock them.

SALT AND GILA RIVER VALLEYS AS FEEDING POINTS.

Cattle-raisers have had within the past few years their attention called to the Salt River Valley, in the vicinity of Phœnix, as a favorable point for maturing steers, instead of having to depend as they do now, on the pastures of Kansas, Montana, and California. Alfalfa or lucerne is raised in the Salt River Valley in great quantities, and its fattening qualities in preparing range cattle for market have been fully tested, not only here but through California as well as in Nevada. At Reno and Lovelocks in Nevada thousands of range cattle are fattened each year on alfalfa for the San Francisco market, and the business has been eminently successful. As yet for various reasons it has not been attempted on so large a scale at Phœnix, although it is estimated that not less than 50,000 acres of alfalfa are now planted in the Salt River Valley, capable of producing 250,000 tons of hay per annum. Many range cattle of late years have been fattened in this valley and the annual demand for pasturage is increasing. Owing to the warm and dry winters in the Salt and Gila river valleys no shelter is

required for cattle, and this fact, united with many favorable conditions that exist in these valleys for feeding cattle will eventually enable them to compete successfully as feeding points with those of Nevada and California as well as those of the Eastern States. I quote the following on stock feeding from Bulletin No. 8, issued in March of the present year by Messrs. Gulley and Moss of the agricultural experiment station:

For several years the writer was engaged in winter cattle feeding in Michigan where the staple foods were corn and hay; after that time, for seven years in Mississippi in handling a large dairy herd and fattening beeves, where a series of experiments were made to determine the food values of cotton seed. These experiments were continued in Texas in 1889 and 1890. During these years the work of the distillery and other feeders in the Northern States and the extensive work of the cotton seed hull and meal feeders in the South was frequently inspected. With this general knowledge of the facilities for feeding cattle over a considerable part of the country, it would seem to me that we have in Arizona certain favorable conditions for feeding cattle that will enable us to compete successfully with cattle men of other States. First, we have warm and dry winters; no shelter is required. Secondly, in alfalfa and sorghum we have two crops that supply a nutritious cattle food for the growth of which our climate is specially adapted, and they may be grown at a cost that will enable us to produce beef at a minimum expense compared with other sections of the country. * * * From 2 to 2½ pounds gain per day for one hundred days is a good gain for average 1000-pound steers fed on hay and corn in the Central States, and we are confident that this increase may be nearly made with selected range steers fed on our sorghum and alfalfa, if they can be "broken" to eat and to feed quietly after placing in the yards.

LIVE-STOCK SANITARY COMMISSION.

When cattle are brought together in such large numbers as they are in the Salt River Valley the most vigilant care has to be exercised against the outbreak of any contagious disease. Fortunately the Territory has, under the provisions of the law, a well-organized live-stock sanitary commission, composed of some of the most intelligent and experienced cattle men of the Territory and a capable veterinary surgeon. Their duties are to have under strict supervision the health of all the live stock throughout the Territory, to see that the quarantine regulations that govern the importation of cattle into the Territory from Mexico and the States of the Union are enforced, and to have inspected the brands of all cattle shipped or driven from the Territory, as well as to always take the proper measures to protect the best interests of the cattle industry of the Territory wherever they seem to be jeopardized beyond the borders of Arizona by unjust discrimination or unjust laws of other States. The creation of this live-stock board by the legislature gave great satisfaction to the cattle men of the Territory; and the presence of an organized body of cattle men to jealously guard the best interests of the industry has done away with the necessity of stockmen banding themselves together into cattle associations, and these, so numerous at one time, have nearly ceased to exist.

SHEEP-RAISING.

Much more attention has been given in Arizona to raising cattle than to any other kind of stock. Sheep-raising, however, is rapidly on the increase in the northern part of the Territory.

The industry has been confined principally to those counties in the higher altitudes of the Territory, and wherever introduced has been extremely profitable. Experience goes to show that on the ranges of the southern counties, with different grasses and a warmer climate, it

is less profitable. The number of sheep within the borders of this Territory is stated to be, on the best authority, in round numbers, about two millions, including the sheep owned by the Navajo Indians. Flocks of brood ewes have increased during the past year from 75 to 90 per cent.

Merino sheep produce about 8 pounds of wool per head annually, and command a market price of $3 each.

Mexican sheep, or coarse wool-shearers, yield about 4 pounds of wool per head annually, and bring about $1.50 a head.

The annual wool clip of the Territory will aggregate about 10,000,000 pounds.

The high mountains of Arizona for summer and low valleys for winter are similar to those of France and Spain, where developed the original fine-wool sheep. Our fine wools when scoured compete successfully with the best Ohio and Australian wools.

Many train loads of mutton sheep have been shipped to the feeding grounds in the Mississippi Valley to be prepared for the Kansas City and Chicago markets, and sold at a price of from $5 to $6 per head. It is a significant fact that while there has been a heavy loss and a decrease of cattle during the drought of the last two years the sheep in Arizona have increased in numbers.

MINING.

During the last seventeen years Arizona has produced gold, silver, and copper to the value of $94,293,648, which places her among the leading mineral regions of the United States. It was not till 1876 that mining could be said to have been inaugurated in the Territory. In that year $336,564 worth of silver bullion was produced. The industry rapidly developed, until in 1881 the silver bullion shipped from our mines by the Wells Fargo Express Company amounted to $6,278,893, and the total product of gold, silver, and copper for the following year reached $9,298,267, the highest point ever attained. The rapid decline in the price of silver during the last three years resulted in the closing of nearly all of our silver mines, reducing the output for last year to $287,426, while the value of the total product of metals (including copper in ores) shipped for treatment was $6,782,607. Thus it will be seen the falling off in the silver output has been, in a measure, made up by the increased production of copper.

Of the copper companies producing in the Territory five gave an output for the year of 38,712,507 pounds. During the past six months there has been a marked movement in prospecting and mining for gold, with such favorable results that it is reasonably certain the output for the year will be $6,000,000. It is interesting to note the development of Arizona's mineral resources during the last seventeen years. This is shown by the following tabulated statement prepared from the report of John J. Valentine, president of the Wells Fargo Express Company:

Arizona's bullion output for seventeen years.

Year.	Gold dust and bullion by express.	Gold dust and bullion by other conveyances.	Silver bullion by express.	Ores and base bullion by freight.	Total.
1876	$103,528	.....	$336,564	$671,900	$1,111,992
1877	122,867	.....	506,549	1,759,206	2,388,622
1878	199,911	$19,911	1,116,606	951,555	2,287,983
1879	212,722	21,272	1,046,036	662,373	1,942,403
1880	159,970	80,000	2,830,449	1,402,052	4,472,471
1881	396,697	132,332	6,278,895	1,390,942	8,198,766
1882	386,517	100,000	5,631,083	3,180,667	9,298,267
1883	340,686	150,000	4,147,427	3,545,630	8,183,743
1884	360,791	100,000	3,139,628	3,455,690	7,056,319
1885	726,426	120,000	2,752,068	2,996,652	6,595,146
1886	583,827	100,000	1,371,083	4,048,468	6,103,378
1887	680,545	200,000	1,073,985	3,817,020	5,771,550
1888	712,600	100,000	850,798	3,460,470	5,123,868
1889	922,861	50,000	611,666	4,218,500	5,803,027
1890	1,050,486	100,000	683,565	5,763,298	7,597,349
1891	759,132	100,000	521,344	4,195,681	5,576,157
1892	787,505	215,000	287,426	5,492,676	6,782,607
Total	.....	.....	.....	.....	94,293,648

MINERAL RESOURCES.

As to the mineral wealth of Arizona probably no person is better qualified to speak understandingly than the director of the Arizona School of Mines, Dr. Theo. B. Comstock, who is also the president of the University of Arizona, at Tucson. The following is quoted without change from a statement furnished by him at my request. He writes:

The remarkable outpput of a few wonderful mines some years ago gave prestige to Arizona, and the sudden stoppage of dividends, through mismanagement and ignorance of the facts, has turned away capital which certainly would have earned as much here in legitimate mining as it has brought to its owners elsewhere in the meantime. The inference drawn from the commercial history of the Bonanza mine was what might have been expected, no doubt, but that it was erroneous and unbusiness like is most clearly proved by the sequel. It is a very common thing for investors who too freely place their capital where they can not or do not watch its manipulation to console themselves for its loss by wholesale condemnation of the investment and all of its class.

If we throw out certain barefaced swindles, which no sensible honest man could have regarded as legitimate after very moderate investigation, there remain only two or three districts which have formed the basis of the adverse judgment which has been passed upon Arizona's mines in some influential financial quarters. Probably the real foundation for the idea with which I was fully imbued when I came to this Territory might be traced to the record of the Silver King and one or two of the Tombstone properties, notably the Tombstone Mining and Milling Company's holdings. From the early experience of these we were all led to judge that the whole vast aggregate of the ores of gold and silver in Arizona was merely superficial, though enormously rich.

Were such conclusions warranted by the facts, even in the cases cited, there is no doubt that the proper handling of such deposits both at the mines and in the home offices would be among the most profitable of industries under reasonably favorable conditions of the metal markets. But the truth is, the facts do not all justify the conclusions. The recent workings of these same veins afford ample evidence of their permanent and deep-seated character, and my careful examination of a very large number of mines all over the Territory enables me to state positively that our deposits of both gold and silver ores are not excelled by those of any other region. In many respects, considering the advantage of climate, favorable exposure, and the high grade of the output, the outlook for the mining industry in Arizona is unequaled anywhere. The character of the ores has changed below the zone of surface action, but the quantity does not ordinarily show signs of diminution.

SILVER AND GOLD.

The present condition of the silver mines is, of course, not very encouraging, but even this important branch of our industries is suffering less than in other regions

because of the greater security provided by the richness of the deposits. There must be eventually a stoppage of silver mining here, as elsewhere, if no improvement occurs in the price of the metal; but Arizona mines in many localities, if understandingly worked, will be able to withstand vicissitudes which would ruin those less favorably situated.

Our supplies of gold-bearing ores have not heretofore been adequately appreciated, owing to the productiveness of the silver ores, and on account of the free-milling character of such deposits at the surface. The change in character of these ores as depth has been attained, and the downward fluctuations in the price of silver, have compelled attention to the auriferous veins, which really form the staple supply of our great mineral wealth. In other regions, for the most part, the gold product has been largely obtained in connection with the treatment of ores of silver. In Arizona, although there is an abundant harvest to be won from the proper working of the immense deposits of silver-bearing minerals, it is probable that the full development of the gold veins would result in an increased production rivaling that of the palmiest days of California.

The whole of the mountainous area of southern Arizona is highly auriferous, and the gold belt extends in bands across the Territory. The veins are remarkable for their great width and for the depths to which the metal extends in a free condition. The ores are usually brittle and easily worked, yielding a very small percentage of waste material, often actually none at all. Among the notably successful mines of the main belt may be named the Mammoth, of Pinal County, which has been returning large dividends to its English stockholders; the recently worked Mammoth of the Superstition Mountains, in Maricopa County, one of the most promising properties yet discovered; the wonderfully rich mines of the famous Harqua Hala district; the telluride veins in the vicinity of the Antelopes, in Pinal County; the less advertized but very profitable workings of private owners near Yuma; numerous veins which are beginning to make a favorable record in Pima County, especially near Oro Blanco and in the neighboring country; a large number of rich and easily worked deposits in the northern counties of Mohave, Yavapai, and Coconino; the Congress, Crowned King, Gladiator, Model, Roach, and other mines yielding rich sulphides which can be very profitably concentrated. The White Hills district in Mohave County, the Walnut Grove district in Yavapai, are among the best of the gold-bearing areas. In Maricopa County the Vulture, Union, Yarnell, and Phœnix mines are representatives of a class of valuable gold-producers with a pyritous product. These last may require some skill in the treatment, but they present no difficulties of workings beyond the reach of well-trained metallurgists. Cochise County has a number of mines which yield notable quantities of gold in ores which have heretofore been marketed also for their silver contents.

In all parts of the Territory where minerals exist there will be found valuable deposits of gold-bearing ores. These will form a large and increasing portion of the productive wealth of Arizona, although the mining industry must materially change in character if the degradation of silver is to continue. It is doubtful if even the miners, as a class, fully realize what is patent to all metallurgists, namely, that heretofore the treatment of the bulk of the ores carrying gold have been very closely linked with reduction of the ores of silver and lead. Consequently the growth of an important gold-mining industry in the Territory in future will be materially influenced in character by the status of the other metals, notwithstanding the undoubted ability of many of the gold mines to stand independently if need be.

Rich gold placers cover areas of considerable extent in Pima and other counties. Very large sums have been realized from nugget grains obtained by crude methods in the Santa Rita Mountains and the Quijotoa district. Scarcity of water has prevented thorough work, but there seems good reason to anticipate large and steady remuneration with capital judiciously invested in modern appliances and in the storage of water, which is abundant enough in the rainy season.

The silver producers in Arizona are, with very few exceptions, now lying idle. None are shipping, unless the proportion of gold is large enough to justify working for that metal alone. There is a vast number of properties yielding silver, which were profitably worked when silver commanded a good price in the market; the stoppage of these has seriously damaged the business of the mining centers which was very closely identified with their prosperity.

COPPER.

In copper production Arizona stands third among the States and Territories. The output for the year 1892 was 38,000,000 pounds, being the largest product for any one year, except 1891. It is well known that this diminution was wholly due to the market conditions, and not to the natural incapacity of the mines. The product in 1893 as well as in 1892 was also purposely curtailed by agreement among the producers. We have great advantages over all other domestic sources of supply in the

richness and docility of the ores, which have been chiefly oxidized minerals. Now, some of the hard-worked miners have begun to consider the necessity of treating the sulphides from the deeper level; but the cost of producing copper, even with all the disadvantages of an undeveloped country, has compared most favorably with competing districts.

The Copper Queen mine, at Bisbee, Cochise County, has been the largest producer, followed closely by the United Verde, of Jerome, Yavapai County; then, in order, by the Old Dominion, of Globe, Gila County, the Arizona Company, of Clifton, Graham County, the Holbrook and Cave, of Bisbee, and the Detroit, of Globe (not working in 1893). The unworked districts contain deposits which experts regard as equal in value to those which have been already worked. There is good reason to believe that Arizona will maintain at least her present rank as a copper producer for many years to come. The quality of the bullion is second only to the unapproachable Lake brand itself.

LEAD.

The amount of lead credited to Arizona in 1892 was only 2,000 tons, or less than 1 per cent of the total production in the United States; but when it is considered that every pound of our output was argentiferous and mined as silver ore, it will be seen how important this metal becomes as a factor in the business depression following the drop in the latter. Moreover, a very large percentage of the low-grade ores of the Territory are the most desirable varieties of galena, suitable only for smelting. The stoppage of the silver mines has effectually prevented the raising of any of this material. Without going into details, it must be evident to all discerning minds that the future development of both the lead and silver interests of Arizona will eventually demand the reduction of the ores at home in large degree. Fortunately, we are liberally provided with stores of dry silver ores to mix with the low-grade lead mineral, and investigation proves that our Territory is richly endowed with the material for fluxes.

IRON.

Iron ores are of less immediate interest to us, but it is interesting as affecting the future progress of this region to note the appearance of extensive and exceedingly valuable deposits of workable material of this class. Meteorites have apparently fallen in such quantities in the past as to make fragments of them a noticeable constituent of the sands in certain localities. We have enormous areas in which magnetic ore abounds, while hematite and limonites are abundant in many places. These iron ores occur usually in proximity to the limestones and in situations well disposed for economical working. There can be no doubt that the Territory has within itself all the requisites for building up a successful iron industry when once the proper artificial conditions of transportation are established.

OTHER MINERALS.

Manganese ores occur abundantly. These have been repeatedly sent in to the School of Mines for identification, and some of them bear evidence of great commercial value. They vary in quality and composition, and it is impossible to speak explicitly as to the extent of the deposits, which I have not been able to critically examine in many instances. Judging from the associated rocks and from such hints as are reliable criteria, there would seem to be much hope of obtaining these ores in large masses. Such material will some day play an important part in the reduction of certain classes of silver ores which abound in Arizona. Notable instances of their occurrence in the mines of silver ores are the Lucky Cuss, of Tombstone, and the Reymert, northwest of Florence, and others contain manganese in workable quantities.

I have detected nickel and cobalt in percentages high enough to make it profitable enough that these metals may become important commercial products of Arizona. As yet they have only been observed in connection with other ores in proportions which will not prove remunerative without concentration.

Graphite deposits of commercial extent have not been reported, but there are some localities which expose altered coal beds, much metamorphosed, having the qualities of impure plumbago.

Zinc blende is abundant in particular districts. This mineral is not as common as a contamination of galena veins as in some parts of the country, but it occurs in quantity in certain belts, usually more or less specialized in distribution.

PRECIOUS STONES.

Among minerals classed as precious stones we have mined turquois and opals, agatized wood, and a little tourmaline. The greatest interest has attached to the

onyx deposits of Yavapai County, from which large revenues have been earned, with no prospect of early exhaustion. The product of the Big Bug quarries is of excellent quality, comparing favorably with the best of the Mexican output. This mineral is not confined to that region; good specimens have been sent from other counties, but no capital has been applied to their development.

COMMON MINERALS.

Arizona is rich in the more common minerals employed in the arts. Asbestus of good quality exists in several localities; mica occurs in marketable grades, although little effort has been made to mine it; large deposits of material suitable for the manufacture of natural and artificial hydraulic cements are known, but not yet utilized for lack of markets and transportation; porcelain clays and clays adapted for brick and tile are largely deposited; feldspar is also abundant in places; talc and talcose minerals may be obtained in localities soon to have the benefit of cheap freight, and it is very probable that important additions to the list of economic minerals will be made when more thorough prospecting has been done in all parts of the Territory. Some very promising samples of lithographic limestone have come under my notice.

FUEL.

The fuel problem has not yet assumed a serious aspect, nor will it trouble much while our extensive forests last. We have assurance of cheap coal from Mexico at no distant day, and there is a hope that our own deposits may prove of more value than has been expected. We need more and better facilities for transportation and more reliance upon home treatment of our ores and mineral products.

WATER SUPPLY.

The question of water supply has heretofore been handled most superficially, and I deem it proper to speak of my investigations as far as they have gone. There is really a much larger supply of water below the surface than is known, even by our own citizens. Practically nothing has been done to develop this source of wealth. The experiments already made prove that very much can be raised from a reasonable depth, but it is all-important that deep boring should be tried to test the underlying structure in order to understand what may be expected over wide areas. A thorough geological survey is imperative. The work could be performed well under the auspices of the School of Mines were funds available for the purpose.

Whether it be possible to obtain a supply of water from artesian wells is a question which involves a knowledge of structure, which can only be acquired by careful instrumental surveys. Prof. J. F. Blandy, who has given the subject much attention, informs me that he is gradually becoming more sanguine of success in this particular. My own observations are less conclusive because less extended, but such facts as have been gleaned are cheerfully confirmatory of this idea. I am convinced that deep boring, as an experiment, would be wholly justifiable at many points over a wide area in the desert tracts. But I must protest against any interpretation of my words to imply the probable success of such enterprises in the highlands adjoining the more prominent mountain ranges. It is rather in the lowland plains, especially of Southwestern Arizona, that the conditions are presumably favorable.

BUILDING MATERIAL.

Building materials of the best quality occur in profusion in Arizona. We have excellent limestone, both for construction and for the manufacture of quicklime. Many of the volcanic rocks work easily and can be dressed when required. Sandstones of rich color are obtained in the northern counties.

FORESTS AND LUMBER.

The timber region of the Territory is chiefly located in the northern and central portion of Arizona, and covers an area of about 2,750 square miles. The high mountain ranges of the south and eastern portions of the Territory are also very liberally timbered. Pine wood is generally found at altitudes of from 5,000 to 10,000 feet. Below this

line the timber runs into juniper, live oak, mesquite, and palo verde. The two last named supply the fuel of the Territory. It is estimated that the total quantity of pine timber fit for commercial purposes is 10,000 million feet. This, however, is chiefly located in the northern and central portions of Arizona, and will be of little service to the southern section until rail communications are completed. At present the lumber for this section is supplied by California and Oregon, at prices varying from $30 to $60 per 1,000 feet, the high price being due to the cost of transportation. The value of the merchantable lumber in the pine forests of the north, where the output ranges from 10,000,000 to 12,000,000 feet annually, runs from $12 to $15 per 1,000 feet.

With reference to the output during the past year and suggestions relative to our forests, I would commend the following from the president of the Arizona Lumber Company, who is an accepted authority on the subject of which he treats:

> In my judgment the lumber production of Arizona during the year ending June 30, 1893, would amount to about 24,000,000 feet. I base this estimate upon the knowledge of what our neighbors at Williams and Challender are doing and also upon the closest possible information that I can get as to the outpnt of the small sawmills in other parts of the Territory. For these last, however, I have to depend largely upon hearsay, but I am satisfied, nevertheless, that it is a very close approximation.
>
> I do not know of any suggestion that I could make as to legislation for the benefit of this industry; but I believe that it is the duty of every person who can give the matter thought at all, and who is in position to influence anyone's action in the premises, to make some endeavor to perpetuate our forest conditions for the benefit of future generations in the Territory. Upon the reasonable preservation of our forests will depend the happiness and welfare, and I may say the absolute existence, of any large population in this Territory; and the time to act is the present, when the least possible injury will be done to vested rights. I believe the Government ought to withdraw all timber lands it possesses in the Territory and ought to appoint a competent forester who would make it his sole duty to see that the covering which nature has afforded our mountain top should be preserved, to the end that the valley land of the Territory would be protected either from drought or flood in the years to come. The ordinary lumberman cares simply to cut and slash, and usually his only measurement of the value of a tree is, how many feet of lumber it will make and how quickly it can be converted into money. But I contend that we have a duty to posterity, and that even the mad scramble for immediate gain in which most of us are indulging should in some measure be so guided as not to inure to the positive injury of those who are to come after us, as I believe it is now doing. The American Forestry Association has prepared a bill looking to wise conservation of existing forest conditions and the increase of the tree covering of our mountains, where more or less devastation has already taken place; and I believe if every person who cares about these things throughout the country would give such support to it as their position will admit, it would tend to put into effect the best experience of other nations as well as our own, and without working a single particle of injury to anybody concerned.

EDUCATION.

Arizona's public-school system was established in 1871, and is fully abreast of the most advanced American ideas on this subject. The progress of the schools since their inauguration shows how firmly rooted is the idea of public education in the mind of the people. With the conquest of the different sections of the Territory they sow its seeds as readily as they plant corn and the vine.

The following tabulated statement, prepared by Prof. F. J. Netherton superintendent of public instruction, may be taken as correct:

Counties.	Number of children of school age at last census.	Average length of term.	Average salary.	Total amount paid in salaries.	Total expenditures.	Value of school property.
		Months.				
Mojave	244	8⅓	$75.80	$7,295.00	$8,536.34	$5,170.00
Graham	1,930	5½	73.00	9,080.00	11,162.23	13,613.00
Maricopa	3,494	6⅓	81.00	27,662.00	61,323.53	132,524.00
Pinal	882	6⅝	84.00	7,882.00	10,132.41	19,276.50
Gila	548	6½	74.00	7,596.00	8,595.74	3,855.00
Cochise	1,310	6	77.00	16,756.00	21,389.24	25,899.99
Coconino	504	6	92.50	4,733.00	7,325.34	(*)
Pima	3,265	6½	78.70	21,434.50	26,738.61	75,251.00
Yuma	516	(†)	92.50	3,354.75	4,332.30	(†)
Apache	1,506	6	73.25	11,653.00	17,215.24	10,750.00
Yavapai	1,264	6½	75.00	23,265.41	29,059.91	43,080.00
Total	15,463	6½	79.77	140,712.21	205,810.89	329,419.49

*Not valued. †Not given.

Counties.	Number of teachers.	Number of school districts.	Number of boys enrolled.	Number of girls enrolled.	Total enrollment.	Number of children attending private school.	Number attending denominational school.
Mojava	12	12	90	93	183	9	
Graham	25	20	525	449	974	15	4
Maricopa	64	41	1,400	1,201	2,601	193	10
Pinal	9	7	269	278	547	117	
Gila	18	16	250	187	437	15	4
Cochise	30	22	588	487	1,075	34	5
Coconino	8	6	137	130	267	6	6
Pima	35	24	874	681	1,555	552	
Yuma	9	8	111	71	182	94	
Apache	26	20	554	586	1,140	54	31
Yavapai	39	38	535	501	1,036	31	68
Total	275	214	5,333	4,664	9,997	1,120	128

Last year there were 275 teachers employed in the public schools of the Territory, on an average of six and a half months, at an average salary of $79.77 per month. There are 214 school districts with 15,463 children of school age, of which 9,997 are enrolled on the school list. The total amount paid in salaries was $140,712.21, and the total expenditure of maintaining the schools for the year was $205,810. The total value of school property is $329,419.49. I doubt if a better showing can be made by any State or Territory in the Union.

There is a number of schools also conducted by religious bodies. There are in Catholic academies and parochial schools 600 pupils and 25 teachers, the latter composed of the Sisters of St. Joseph, of Carondolet, and of Mercy. The amount expended in the conducting of these schools is about $6,000.

There is also an academy at Nogales, conducted by the South Methodist Church and a number of minor religious educational institutions throughout the Territory, so that it will be observed the religious forces are not idle in the education of the young.

NORMAL SCHOOL.

The Territorial normal school was established eight years ago at Tempe, for the purpose of training home talent to be utilized in teach-

ing in our public schools. The curriculum is similar to that of such schools in the respective States. It embraces a graduating course of three years.

The attendance has steadily increased since its establishment. There are now three instructors employed. The last legislature provided for the erection of additional buildings; also by direct tax provided for other necessary improvements. The normal school is now firmly established, and has become one of the best equipped institutions of its kind in the country. It gives to the Territory annually a new corps of most excellent teachers.

TERRITORIAL UNIVERSITY.

The University of Arizona was created by act of the Territorial legislature of 1885, which provided for its location at Tucson. The building was completed and the university opened October 1, 1891. The value of its grounds, buildings, and equipment is $90,665. The university is under the control of a board of regents appointed by the governor, the secretary of the Territory and the superintendent of public instruction being *ex-officio* members of the board. The endowment now available for educational purposes consists of two separate funds, as follows: First, the territorial tax of about $4,500, to pay interest on bonds pledged to the university, annually levied, available for building and general purposes. Second, the college appropriation from the National Congress, increasing annually from $15,000 to $19,000 for the year 1893–'94, with provisions for a continued yearly increase of $1,000 until it becomes $25,000 annually, restricted to use for salaries and equipment. The enactment establishing the university provides that it shall consist of five departments: First, the department of literature, science, and arts. Second, the department of theory and practice and elementary instruction. Third, the department of agriculture. Fourth, the normal department. Fifth, the department of mineralogy and the school of mines.

With adequate provision for instruction in science and literature and in the branches required for thorough training in business methods, as well as in art, this university devotes particular attention to agriculture and mining, the two great industries of Arizona.

In the School of Mines and the agricultural experiment station, each with its director and staff, much valuable practical investigation is carried on for the benefit of the people in addition to the training afforded those who are preparing to engage in these pursuits.

SCHOOL OF MINES.

The results of this institution are being rapidly demonstrated. Situated in the heart of a rich mineral region, the students acquire a practical knowledge seldom obtained in similar schools in other portions of the country. All classes of ores and minerals are received, tested, and analyzed, and the various processes for the reduction of the same determined. The students also visit the mines in the surrounding districts and become acquainted with the applied principles of mining in all its branches. The mining interests of the Territory receive much benefit from the tests thus made. The most successful methods of treatment and the practical results are determined, so that mills and reduction plants are not being placed on mines before the kind of machinery necessary for the treatment of the particular class of ore is tested. Large fortunes have been recklessly spent in the erection of

plants in which ore could not be properly treated. This is a thing of the past in the mining industry of Arizona. The School of Mines has in a great measure brought about the change. It is now giving to the Territory mining engineers, a benefit to the mining industry which must be self-evident. The director of the School of Mines has also begun the study of the geology and mineral resources of the Territory, a work which must be productive of great benefit in the development of our resources. It would seem a very desirable act for Congress to provide the mining schools of the West with a fund similar to that annually appropriated for the agricultural experiment stations. The work performed in our School of Mines is of a high order and of much practical utility, but it is now done at great disadvantage because of the lack of means for its proper prosecution.

AGRICULTURAL COLLEGE AND EXPERIMENT STATION.

The Territory is also realizing the valuable results from the agricultural college and experiment station. As befits this region, special attention is given to irrigation and water supply as well as to agriculture, horticulture, and chemistry. The analyses of the soil and water of the different agricultural and horticultural districts give to the farmers scientific information as to what the soil will or will not produce successfully. These investigations are of incalculable value.

The study of plant life peculiar to the Territory and the uses of the respective species is also proving of much advantage. Illustrative of this fact is the information as to the results obtained in the study of canaigre (a tanning tuber) details of which are given on another page.

I have taken this opportunity to refer to these schools and their operations with a view to showing the practical results flowing therefrom as intelligent aids to the development of the resources of the Territory.

TERRITORIAL REFORM SCHOOL.

By an act of the last (the seventeenth) Territorial legislature there was established and located in Coconino County an institution known as a reform school for the confinement, discipline, education, employment, reform of juvenile offenders in Arizona. The government of the institution is vested in a board of three trustees, appointed by the governor with the advice and consent of the legislative council.

A tax of half a mill on each dollar on the assessed value of the property of the Territory must be levied for the years 1893 and 1894, which tax is to be used for the purpose of building and equipping the institution. The board of trustees charged with the duty of locating the building have selected Flagstaff as the place for this purpose. The work of the building will be commenced in the coming year.

THE PRESS.

The educational interests of the Territory are well represented by an active, liberal, and progressive press. There are in this Territory nine daily papers and twenty-seven weeklies. Of the dailies four are Democratic, four Republican, and one independent. Of the weeklies thirteen are Democratic, ten Republican, and three independent. While earnest in their advocacy of the principles of the respective parties which they represent, the journals of the Territory devote themselves to the material, social, and educational interests of the people at large rather

than to political discussions. As the great journals of the nation are to be found on the side of justice and right, of the weak against the strong, so it is with every daily and weekly in Arizona. In the press every worthy movement finds an earnest, fearless, and disinterested champion.

LABOR.

Owing to the fact that labor in this Territory is largely engaged in mining and agricultural pursuits, no general organizations are formed save those of railroad employés. Nevertheless the condition of the laboring classes is exceedingly good. Farm hands receive from $1 to $2 a day, and railroad employés receive a higher rate of wages than in any other portion of the country. The wages of mechanics run from $3 to $5 per day. There is a great demand for domestic help. Domestics earn from $20 to $30 per month. The demand and supply for labor being about equal there have been no labor disputes thus far in the Territory.

INDIANS.

The condition of the Indians, all things considered, is quite satisfactory. According to the last census the population is about 35,000. The policy adopted during the last administration of Mr. Cleveland having for its purpose the removal from the Territory to distant points of the country of the criminal and disturbing elements of the Apaches has resulted in what appears to be a permanent ending of Indian depredations. Not only those who were removed but those who remained on the reservation have been greatly improved. The Apache outbreaks, raids, and destruction of life and property are things of the past. The schoolhouse for the industrial education of Indian boys and girls and the plow and other farming implements for the adults have in a measure taken the place of the bow and arrow and rifle in securing sustenance for the warriors and their families who were once the terror of the country.

ARMY OFFICERS AS AGENTS.

The policy of appointing army officers instead of civilians as Indian agents is a wise one. One of the chief sources of Indian troubles in the past has been the dishonesty of agents appointed from civil life. The change has reduced the danger to a minimum, as experience shows, and is a step toward placing the control of the Indians under the military arm of the Government and thus giving to the hand that feeds the power to punish. With this policy thoroughly inaugurated there will be much less danger of Indian outbreaks.

During the past year there has been but one source of annoyance. This has arisen from the outrages of the noted Apache outlaw, "The Kid," who, with such assistance as he could receive from the reservation, has succeeded in evading both the civil and the military authorities. There are well-founded hopes, however, that the career of this band will be speedily terminated.

INDIAN SOLDIERS.

In this connection I would call attention to the dangerous policy of enlisting Indians as United States soldiers, a policy from which nothing but evil results have ensued. The training of the Indian in the use of the most improved firearms and ammunition and the skill which

he acquires in the service are calculated to make him a dangerous foe rather than a safe defender, for it is a fact that in the majority of instances the enlisted Apache is no sooner discharged than his marauding inclinations assert themselves, and he goes forth a greater terror than ever from the skill which he has acquired through military discipline. Further, it is a fact that the Indian soldier is the most enthusiastic patron of the army saloon or canteen, and here it will be observed that his military training cultivates rather than diminishes his savage instincts. Altogether the discharged Apache Indian soldier is a menace to the good order of the Indian reservation to which he retires, as well as to the sections of territory through which he has been accustomed to roam. The cherished hope of advancing the Indian in civilization by enlisting him in the Army has not been realized; on the contrary it increases his disregard for the sacredness of human life.

MEANS OF CIVILIZATION.

The most effective means of bringing about this civilization, I believe, is by work and removal to a far distant region of country, the physical conditions of which are in striking contrast to his native surroundings. Toil is the great civilizer of every savage race. The application of the edict "in the sweat of thy face shalt thou eat bread," should include the Indian as well as the balance of the human race. As to the civilizing influence of removal a striking example is afforded by the Cherokee, Choctaw, Seminole, Creek, and other tribes who were sent to the Indian Territory from the Southern States. It is also true that the removal of the Chiricahua Apaches from Arizona to the Atlantic States five years ago did more to civilize them than could have been accomplished in twenty-five years had they remained in the Territory.

It must be understood that my remarks on this point apply to the adult Indians, whose habits it is impossible to eradicate so long as they remain in the midst of their old surroundings.

As to the best means of dealing with the children, this is treated of in another place.

INDUSTRIAL TRAINING.

There has been most encouraging progress made during the year in the line of industrial pursuits on all the reservations, probably less, however, among the Apaches than in any other tribe. The lack of water for farming purposes is the greatest drawback on all the reservations in the Territory, and I would recommend most liberal appropriations to supply this want—if necessary, at the expense of the sums provided for these occupants maintained in idleness and thus encourage the Indian to become self-sustaining by the fruits of his own toil, a matter of primary importance in the consideration of his civilization.

THE MOHAVES.

The Mohaves on the Colorado River Agency have during this year adopted modern methods of farming for the first time in their history. Heretofore they only planted small patches of ground along the river bottom and consumed the product as fast as it matured. During the past year about forty families have been farming under an irrigating

ditch with marked success, the water being supplied by two steam pumps. Formerly the Mohaves did their planting with a stick. Now under a competent farmer they plant with plow and hoe. The most excellent results have already been achieved, but much better are expected for next year as the experience of the past season was their first in civilized methods of tilling the soil.

THE PIMAS, PAPAGOES, AND MARICOPAS.

The progress made by the Papagoes on the Pima Reservation has also been highly encouraging. This agency includes three tribes, the Pimas, the Papagoes, and the Maricopas, aggregating about 7,300 in population. These are the most civilized and industrious Indians in the Territory, and from time immemorial have been friends of the whites. They are largely engaged in pastoral and agricultural pursuits. The Papagoes produce annually about 6,000,000 pounds of wheat in addition to other cereals, and a variety of vegetables. This produce is their chief means of support. There is a great lack of water necessary to the cultivation of the quantity of land which these tribes are desirous of farming. This suggests the necessity of aid from the Government to help them in their work.

INDIAN SCHOOLS.

The educational interests of the Indians in the Territory have made most gratifying progress during the year. The Indian population available for schools is about 4,500, and the number enrolled is 1,202, of which 799 are enrolled in the Arizona schools and 403 in the schools outside of the Territory. The Tucson, Pima, and Phœnix training schools have given the most marked results. Here attention is directed to industrial training. Each of the schools has tracts of land which, under the instruction of a farmer, are cultivated by the boys. It is a fact worthy of note that the boys trained in these schools make most desirable farm help and the girls equally good domestics. Thus they are rapidly converting Indian boys and girls into industrial factors. It is interesting, too, to note how quickly these pupils come to understand that time and labor represent money, which can be exchanged for cattle and household goods. Many of the Indian girls are experts at the sewing machine and musical instruments, in which they invest a portion of the profits of their toil.

The progress of the parents of the boys and girls attending these schools is indicated in the improved condition of their dwellings, in their manner of living, in the kind and quality of their clothing. It should also be noticed that the moral and religious training of the children of the desert go hand in hand with their mental and industrial education. Referring more fully to this portion of the subject, I may quote the following extracts from a report submitted by request to me by the Rev. Howard Billman, superintendent of the Tucson Indian industrial training school:

Indian population in the Territory	35,707
Indian population of school age	7,134
Indian population available for schools	4,280
Children enrolled in schools	1,202
Children enrolled in schools in Arizona	799
Children enrolled in schools outside of Arizona	403

The school accommodations in Territory for 1893 were as follows:

Navajo	100
Moqui	50
Keam's Kanyon	110
Day school	50
Fort Mojave	150
Colorado River	75
Phœnix	125
Pima	125
Tucson	175
San Carlos	60
White Mountain Apache	50
Total	1,070

Since 1880 there has been apparently an increase in the Indian population of 3,276. In that year there were only 73 children enrolled in schools, 48 Pimas and 25 Navajoes. These were enrolled in two reservation boarding schools, totally devoid of equipments to do effective work.

In estimating the advance traceable to the influence of the schools, it must be borne in mind that it is only very recently the children educated in industrial schools began to return to their homes, and even now the number is not large.

My observation, extending over a period of five years, has been confined to the Pima and Papago Indians. The results may be summarized as follows: There has been organized the first church among the Pimas, which numbers nearly a hundred members. For sobriety, good behavior, and faithfulness these Indian church members will compare favorably with the Christian people of any Anglo-Saxon community. Within this period two evangelists have received a simple preparation and are now commissioned for work among their own people; they are holding services in two chapels built on the reservation. At the organ sits an Indian girl who leads the music. Many of the Indian families, where the parents are church members, are accustomed to maintain family worship; and at the chapel, 10 miles distant from the agency, while the children are at home from our school in the summer time, they keep up their own prayer meeting.

Within this period of five years the first Indian dwelling has been covered with a shingle roof, and now there is a considerable number of homes so covered. Within this period also the first Indian merchant has opened a trading post among his own people. Within this period the first Indian boy has been employed as teacher, the first boys as carpenters, and firemen for engines for ranchers and flouring mills. It is needless to say these are all returned school children.

A very general improvement in dress and cleanliness, in household utensils, and farm implements has been made within this period. One thing which is clearly demonstrated, by what may be observed among the Pima Indians, is that the parents on the reservation are slowly advancing rather than the children retrograding in the tug of war which goes on between the old and new order of things.

There is only one recommendation that can be made that will greatly advance their interests, viz, that the Government should appropriate large sums of money to build necessary ditches and dams for purposes of irrigation. Until this is done any other recommendation that might be made, even if followed out, would exert but a limited influence for good.

HOME EDUCATION.

It will be observed that the number of Indian children enrolled on the school list outside of the Territory is 403. The wisdom of the policy of sending these children out of Arizona has been questioned on the grounds of health and for other reasons, among which is the fact that their parents object to their attending schools in the Territory, fearing that they may be removed to other schools outside of the Territory. It is worthy of notice, too, that the health of the children attending home schools is good; that of those attending schools outside of it bad, with the exception of those at Fort Lewis, Colo., where they are all unusually healthy.

I must submit that the cost to the Government of maintaining these children in foreign schools can not be less than it would be here. In addition to the cost of education must be added that of transportation,

and seeing that the children eventually return to Arizona, would it not be best to give them an industrial training in the Territory, where they must depend upon the fruits of their industry for their support, and where the methods of farming, stock-raising, and modes of building are very different from those surrounding the foreign schools?

SCHOOL ACCOMMODATIONS.

The number of Indians available for schools is 4,280, yet the school accomodation in Arizona is only 1,070. In view of this fact I would suggest that the buildings on the abandoned Fort Lowell Reservation near Tucson could by the expenditure of a very moderate sum be made to accomodate from 400 to 500 pupils, and even more. There is a large number of garrison buildings in excellent condition requiring little trouble save renovation to render them suitable for this purpose for many years. Several military companies were stationed at Fort Lowell and a vast sum of money expended in erecting the buildings now there and improving the grounds. There is also an abundance of agricultural land included in the reservation which could be utilized for the industrial training of pupils, and which would in a measure render the schools self-sustaining. This reservation was abandoned and transferred to the Interior Department by Executive order February 24, 1891. The reservation included an area of 49,920 acres, some of which is good agricultural land susceptible to irrigation by the Rillito Creek, which flows through the entire tract. I would most earnestly recommend that the Fort Lowell buildings be set apart to be used as an industrial training school, and that in connection therewith a portion of the land be reserved for the same purpose. I do not know of a more practical, economic, and judicious means of increasing the school accomodations for the Indian children in this Territory than the one here outlined.

REDUCTION OF INDIAN RESERVATIONS.

For several years efforts have been made to have the coal lands of the White Mountains (San Carlos) Indian Reservation segregated and opened for occupancy and development, the returns for the sale of these lands to be placed in trust for the use of the Indians. These coal fields are of no benefit to the Indians, and if opened to development would prove a great boon to southern Arizona and would be in the interest of the general welfare. The reduction of the Colorado River Agency is recommended in the interests of both the Indians and the settlement of that portion of the Territory. The reason set forth for this reduction is stated by United States Indian Agent George A. Allen, in communication of August 13, as follows:

> The Colorado River Reservation contains 128,000 acres of land; about 50,000 acres is bottom land, lying along the Colorado river; 10,000 acres is more than the Mojave Indians could ever cultivate, as they can raise from two to three crops a year under a system of irrigation, and I would recommend that at least half of the reservation be thrown open to settlement and the proceeds derived therefrom be appropriated to increase the irrigating plant already in operation on the reservation. This will result in great good to the Mojave Indian by bringing him in contact with the better class of white men who would locate and improve the land. The reservation now occupies all the arable land for many miles on the river; consequently the Mojaves on reservation are isolated from the white settlements and can find no work except on the railroads, by which they are soon demoralized by coming in contact with the vicious class who sell them whisky.

BOUNDARY LINES.

In view of the frequent friction between the stockmen and Indians as to the boundary lines of reservations, I would recommend that the reservations be surveyed and the lines plainly established, especially those of the Hualapai and Navajo reservations, in the vicinity of which the rights of grazing land are frequently disputed.

TRIAL OF INDIANS.

I would also call your attention to an act of Congress approved March 3, 1885 (23 Stat., 385), taking from the United States courts of the Territories jurisdiction in the trial of Indians living on reservations, etc. I find upon inquiry that owing to the fact that the Government having failed to reimburse the county governments of the Territory. which have already expended large sums in the prosecutions pursuant to said act, officers, under advice from their supervisors, have grown negligent and indifferent, and I seriously apprehend, should the real feeling become known on the various reservations, that the law is not and will not be enforced, a condition of affairs may arise which will impede our progress and civilization and materially injure the Indians.

In urging legislation upon this matter I can not do better than call your attention to the reasoning of Mr. Justice Miller (U. S. Reports, CXVIII, p. 383):

> It seems to us that this is within the competency of Congress. These Indian tribes are the wards of the nation. They are communities dependent on the United States, dependent largely for their daily food, dependent for their political rights. They owe no allegiance to the States, and receive from them no protection. Because of the local ill feeling, the people of the States where they are found are often their deadliest enemies. From their very weakness and helplessness, so largely due to the course of dealing of the Federal Government with them and the treaties in which it has been promised, there arises the duty of protection, and with it the power. This has always been recognized by the Executive and by Congress, and by this court, whenever the question has arisen.
>
> The power of the General Government over these remnants of a race once powerful, now weak and diminished in numbers, is necessary to their protection, as well as to the safety of those among whom they dwell. It must exist in that Government because it never has existed anywhere else, because the theater of its exercise is within the geographical limits of the United States, because it has never been denied, and because it alone can enforce its laws on all the tribes.

I feel sure a law of Congress placing the trial of Indians for offenses committed both on and off the reservation exclusively in the United States courts of the Territory would, besides lifting a great burden from the Territory, prove to be a great saving to the Government and insure justice to the Indians.

On this subject I herewith submit the following from E. E. Ellinwood United States Attorney for the District of Arizona:

> In regard to the matter of bringing to the attention of the Interior Department and Congress the advisability of having all crimes which are committed upon reservations prosecuted in the Federal side of the courts, too much can not be said. In the first place, the inadequate force in the ordinary sheriff's office and the lack of funds of counties absolutely prevent the apprehension and arrest of criminals, and I am informed that some boards of supervisors have openly advised the peace officers of their counties to give no attention to these crimes and offenses, while others look with extreme disfavor upon any effort to bring "reservation criminals" to justice. And this is not without reason, for the arrest and trial of such persons necessitates the expenditure of a great sum of county money, with little or no hope of getting it back from the Federal Government. Thus far these counties who have been so unfortunate as to have crimes committed upon the reservations within or contiguous to their counties, and where an arrest and trial has been had have in no

instance been able to get the money thus expended returned. The bills after proper presentation will probably be allowed, but I very much doubt if there is at present any appropriation from which these claims can now be paid, and thus the counties are out thousands of dollars, without gaining any benefit, even a protection to their white settlers, as the cases are chiefly those of the commission of crime by one Indian against another, a matter in which the taxpayers and settlers have no immediate interest.

The marshal's office could more easily guard the interests of the Government upon these reservations, and in fact it is the Government's business. Moreover, if the Government intends these claims should be paid, it will be found that the cost under the Federal statute in fees to the marshal, clerks, etc., is much less than that which counties now pay their sheriffs, clerks, etc., and which is to be returned to the counties by the Government.

In this county no attention is paid to reservation crimes, and should the sheriff undertake it there would be a protest from nearly every citizen and all prosecutions stopped.

INDIAN DEPREDATION CLAIMS.

There are a number of Arizona pioneers who, during the days of Indian depredations, lost nearly, if not all, of their hard-earned fortunes at the hands of the Indian wards of the Government. These early settlers stood the brunt of the conflict which wrested the Territory from savagery to civilization. Some of them are destitute and have claims against the Government for Indian depredations, which are in slow process of adjustment. In justice to these old citizens I would urge a speedy settlement of these claims, some of which date back more than a quarter of a century.

THE COLORADO RIVER.

This river, which empties into the Gulf of California, is by far the most important of any stream west of the Mississippi River, and second within the borders of the United States west of the Rocky Mountains. It is formed by the union of the Green and Grand rivers in Utah, draining a vast area of the Rocky Mountain region. From its mouth to the head of the Green River it is 1,800 miles long. It has been navigated by light-draft steamers since 1852, and until the advent of the Southern Pacific Railroad Company into Arizona in 1887 was the only practical way of supplying the mercantile wants of southeastern California and Nevada bordering its banks. All of Arizona and a portion of New Mexico received their supplies through this same channel.

The river is navigated at high water (through the months of May, June, July, and August) from its mouth to the Rio Virgin, a distance of 640 miles. No other river on the western coast of the United States has that length of uninterrupted navigation.

Steamers are run from the mouth of the river to Fort Mohave, Ariz., (465 miles) at all seasons of the year, but with great difficulty, which could be remedied by a reasonable outlay.

I am informed that in 1884 the General Government appropriated $25,000 for the improvement of the river from the Needles, Cal., to El Dorado Canyon, Lincoln County, Nev., at the instance of the member of Congress from Nevada. This sum was expended under the direction of river and harbor engineers of the Pacific coast, directly under Capt. Payson, United States engineer, whose report of 1884–'85 will show what was done with the appropriation.

The expenditure of $15,000 (that being the amount spent directly on the river, out of the $25,000) has enabled steamers to run to El Dora-

do Canyon a month later and earlier in the season, and also lessened the chance of damage to the same.

About $10,000 of the appropriation was expended in surveys and fitting out a barge for the work; the barge cost $8,000 and was used only two winters. No further appropriations were made and the barge was sold at auction for about $600.

The outlay of $15,000 actually expended on the improvement of that portion of the river designated in the appropriation gave most satisfactory results.

The survey already made is deemed sufficient by river men for the further needed improvement. Those capable of passing an accurate judgment on this subject declare there is no river of such importance in the United States which can be so much improved with so little assistance from the Government as the Colorado. Neither is there a stream the improvement of which will open navigation through such a storehouse of boundless wealth. From Yuma up to the Grand Canyon the stream flows through a rich mineral region of gold, silver, copper, and lead and through large areas of agricultural land tributary to its banks. These are being reclaimed and when made easy of access will become the homes of thousands of families.

The opening up of transportation facilities to farmers and miners of western Arizona and southeastern Nevada and California would create a most profitable commerce and develop a vast amount of wealth which to-day can not be utilized for want of transportation.

Further, the improvement of this river would open a permanent and direct communication between the Southern Pacific and the Atlantic and Pacific Railroad, thus uniting northern and southern Arizona by a transportation line which will at once bring about an exchange of products and create a large amount of traffic for these lines. With this river opened to the Gulf of California, which could be done at a comparatively reasonable expenditure, ocean steamers could be landed at Yuma during the entire year and thus a most important shipping point and mart of trade communicating with all parts of the world by water would be established in Arizona. The value of this to the United States would be exceedingly important from many points of view while to Arizona it would be of great benefit in furnishing cheap transportation for our imports, lumber, machinery and other building and mining supplies as well as in enabling us to export our surplus of grain, cattle, and rebellious ores to foreign markets.

This river that has been and is still of so much use to the country, and which by improvements could be made of so much additional service, certainly is entitled to careful consideration. In view of these facts I would earnestly urge a liberal appropriation for the improvement of the Colorado River.

In support of the foregoing I submit the following from Capt. Isaac Paolhamus, who is to-day, and has been for many years, navigating this river:

In reference to the matter of the necessity for an appropriation by Congress for the improvement of the Colorado River, I respectfully call your attention to the following facts, gathered by me from an experience of thirty-seven years in navigating said river. The distance from Yuma to the mouth of the river is 150 miles, and the river through that distance could be improved readily and at comparatively small cost, as the material is close at hand; the river at high water is navigable 640 miles from its mouth, but at low water, with hard work, expense, and danger from sunken rocks, rapids, and other obstacles, only about 450 miles; these sunken rocks, rapids, and other obstacles can be removed or improved by a judicious expenditure of an appropriate amount of money so that navigation would reach the high-water point unimpeded; the advantages to be derived to the Territories of Arizona and

Utah, and the States of California and Nevada, would be incalculable in the opening up of immense mineral, agricultural, and grazing resources. Rich mines of gold, silver, lead, copper, and coal would be made tributary to the river, as would vast tracts of agricultural and grazing lands. Gold, in particular, predominates. As it is now these mines and lands can not be furnished with supplies except during the high water of the river, some scant four months during each year, and so machinery must be idle the remaining eight months, and mines can not be worked or lands utilized profitably. Certainly it is to the interest of the Territories and States mentioned to use every effort in the direction of procuring an appropriation.

PUBLIC BUILDINGS.

Arizona has no public buildings erected by the Federal Government. There is need, however, for such. There should be at least three buildings, one in northern, one in central and one in southern Arizona.

There is not less than $16,000 paid annually by the Government for the rent of Federal offices, these including the judicial, executive, land offices, revenue department, etc. It would be on the line of economy for the Government to make sufficient appropriation for the purpose specified, as the annual rental would pay a most liberal interest on a sufficient sum to construct commodious buildings at each of the places named.

The public buildings of the Territory consist of the university at Tucson, the insane asylum at Phœnix, the Territorial prison at Yuma, and the normal school at Tempe, all of which were erected by the Territory without one dollar appropriation by Congress; and this in face of the fact that the customs duties at Nogales for the district of Arizona for the last fiscal year were $60,673.75, and the internal revenues collected from this district, including New Mexico, were nearly $50,000 for the same period, of which probably not less than $25,000 was contributed by Arizona, making a total of $85,675.75 collected in the Arizona district. All other considerations apart, Arizona has a right to ask for a liberal appropriation for public buildings. In this connection I would call attention to an act of Congress passed January 22, 1867, which provides that the net proceeds of the internal revenue collected in this Territory during the fiscal years ending June 30, 1867, 1868, and 1869, were to be applied for the erection of a Territorial penitentiary, the amount so appropriated not to exceed the sum of $40,000. No part of this sum has ever been received by the Territory, although during these years the revenues were promptly collected. I would, therefore, most respectfully request that the $40,000 thus provided for be now appropriated for the use of the penitentiary.

LEGISLATION.

The last (seventeenth) legislature, whose session expired by limitation on the 13th day of April, enacted among other laws the following:

Making the Territorial auditor *ex-officio* bank comptroller. For the prevention of cruelty to animals. Regulating the practice of dentistry. Creating a Territorial museum. Providing for additional buildings for the normal school. For the repair of irrigating canals. To regulate houses of ill fame. To establish and provide for the maintenance of a reformatory school. Creating a new fee bill. Providing for publication of supreme court decisions. To encourage the impounding and storage of water. Regulating canals and ditches and relating to the appropriation of water.

Memorials were adopted asking for the segregation of the San Carlos coal fields on the White Mountain Reservation; also, relating to the

Navajos and Navajo Reservation; asking an appropriation for the sinking of artesian wells; asking for an appropriation for the survey of the whole tract of land contained within the limits of the Atlantic and Pacific Railroad, to the end that the same may be made subject to Territorial taxation; also concurrent resolutions regarding the international boundary line between the Territories of Arizona and New Mexico, and other minor resolutions.

TERRITORIAL PRISON.

Since its establishment the Territorial prison has been a source of great expense to the Territory, in fact, greater than that of all the other institutions combined. This, I think, has been due in a measure to mismanagement. No well-directed effort has ever been made to make convict labor sustain in whole or in part the maintenance of the institution. Absolutely nothing has ever been received from this source. Thus the law-abiding, industrious citizen is taxed to maintain the criminal in idleness. An effort is now being made to bring about a change.

I would call attention to the fact that a body of 2,000 acres of land, subject to inundation, adjoins the prison grounds on the north, all of which is unoccupied and could be reclaimed to agriculture by prison labor. I confidently believe that the products of this land would almost, if not wholly, maintain the prison. I would therefore recommend that the said tract of land, located near the intersection of the Gila and Colorado rivers, in the county of Yuma, Territory of Arizona, be granted to Arizona for the benefit of the Territorial prison, to wit, all the fractional sections numbered 12, 13, 14, 15, 22, and 23, T. 8 S., R. 23 W., located between the Gila and Colorado rivers aforesaid and containing 2,015 acres, more or less.

YUMA LEVEE.

Last Congress made an appropriation of $10,000 to construct a levee on the south side of the Gila River, to protect the town of Yuma from the overflow of the said river. I am pleased to report that the engineering work has been completed and the work of construction will be commenced during the present month.

PRIVATE LAND CLAIMS.

The delay in the settlement of title to private land claims originating under the Mexican Government is nearing a termination. The creation of a court of private land claims with jurisdiction to determine these titles at once removed this vexed question from the legislative or political to the judicial branch of the Government, where the law and the facts affecting the same could be more carefully and deliberately considered and the sacred treaty obligations determined by courts of judicial learning rather than Congressional committees. There are twenty-one of these claims in Arizona, containing an area, according to the claimants, of about 6,000,000 to 7,000,000 acres. Much choice land is covered by these claims, and the uncertain settlement of the title previous to the creation of the private land court had caused considerable friction between the settlers on and the claimants of the lands. Now, when all but two or three cases have been filed for the decision of the court, this friction has nearly or altogether ceased. One of these cases, that of the Algadones, located in Yuma, was deter-

mined at the February term of court, held at Tucson, in favor of the claimants, but the Government, believing that the decision was not warranted by the law and the facts, ordered an appeal to the United States Supreme Court. In view of the fact that the land covered by this grant is rapidly being reclaimed to agriculture, it is to be hoped that the appeal will be pushed to a speedy ending, as the delay will do much to hinder the rapid settlement and consequent prosperity of the county in which it is located. The next term of this private land court will be held in Tucson at an early day, at which term it is believed that a number of titles will be determined. There is probably no one thing since the settlement of our Indian troubles which will give so much relief to the settlers and aid in the rapid development of the country covered by these grants as their prompt adjudication. Hundreds of people are loth to improve their lands while these titles are unsettled. The following is a list of the claims in the Territory:

San Rafael, San Ignacio del Babocomori, San Ignacio de la Canoa, Tumacacori, Calabasas, San José de Sanvita, San Rafael de la Sanja, Aribac, San Juan de las Boquillas y Nogales, Los Nogales de Elias, Otero and House lot, El Sapori, Maria Santisima del Cormenor Buena Vista, El Paso de las Algodones, San Bernardino, Peralta, Agua Prieta, Huebabi, Tres Alamos, San Pedro, Buena Vista.

RAILROAD LAND GRANTS.

Under the act of Congress approved July 27, 1866, the Atlantic and Pacific Railroad Company are entitled to 7,000,000 acres of land in this Territory. They have selected some 3,000,000 acres, where the lines of public survey have been extended, leaving more than one-half to be yet designated. The survey of all these lands should be made without delay. The revenues of the Territory would be increased not less than $100,000 per annum from the taxes paid.

MILITIA.

The national guard of Arizona consists of one regiment of infantry of eight companies. The Territory provides for an allowance of $30 per month for each company for current expenses. So far as the equipment is concerned, the militia is now in a much better condition than it has been at any other period of its existence, and before the end of the fiscal year the condition will have so much improved that should any emergency arise the guard can be readily put on a campaign footing. I submit the following report from the adjutant-general of the Territory:

HEADQUARTERS NATIONAL GUARD, ARIZONA,
OFFICE OF THE ADJUTANT-GENERAL,
Phœnix, Arizona, August 24, 1893.

SIR: I have the honor most respectfully to suggest that as soon as practicable the military forces of the Territory be increased by six companies of cavalry and not less than one light battery of artillery; this will place between twelve and fifteen hundred well armed and equipped soldiers in the service of the Territory. I would also recommend that the apportionment of the appropriation made by the National Government for this Territory be increased at least to $8,000.

This is made necessary from the fact that the General Government is gradually drawing its regular forces out of the Territory.

We have several warlike Indian tribes within our Territory; and without a military force that could be brought in the field at short notice our entire southern

border is at the mercy of a foreign nation, bands of outlaws from which will be constantly committing depredations on our border citizens.

We are on the verge of statehood and a good military force well equipped is absolutely necessary for the protection of citizens and property within our borders.

E. SCHWARTZ,
Adjutant-General.

Governor L. C. HUGHES,
Commander-in-chief of the military forces of Arizona,
Phœnix, Arizona.

OSTRICH FARMING.

Among the industries attracting attention in the Territory is that of ostrich farming. Mr. Josiah Harbert, who has an ostrich farm near Phœnix, describes his experience in the business as follows:

On January 1, 1891, I only had two birds; since then I have raised thirty-six off one hen. I consider it the best business a man can go into, because each bird will turn off about $30 in feathers a year, besides the eggs and the increase. The birds are all healthy. I have lost but one, and it got fastened in the wire fence and killed itself. They begin to lay at three years old. The eggs that don't hatch bring $1.50 per shell. Period of incubation is six weeks. They are easily kept under fence. They feed on alfalfa, and should occasionally have crushed bone, and gravel continually. I pluck the birds when eight months old and every eight months thereafter.

A gentleman conversant with the industry in Africa, says that he never saw any birds raised there in confinement that looked any better than my birds raised here near Phœnix.

At two years old birds are worth about $200 each. Guaranteed breeders from three to four years old are worth from $300 to $400 each. The climate is perfect for the health and well-being of the birds, and an acre in alfalfa will carry from four to six.

ARIZONA CAMELS.

In the year 1855 the War Department imported from Smyrna, Asia Minor, a number of camels. They were landed at Galveston, and from there taken overland to Los Angeles for the purpose of transporting military supplies from that point to the various coasts of Southern California and Arizona. En route, however, a number of these camels were lost or strayed in the vicinity of the Agua Caliente, about 75 miles east of the Colorado River. The remainder were delivered at their destination, but their use was found impracticable, the sand being too sharp for their feet, and considerable hostility being excited against their use amongst teamsters and freighters, who took occasion to shoot them on the ground, that their presence caused a stampede of their horses and mules. Of the camels taken to California a number was returned to Arizona in 1876, for the purpose of transporting ores from the then rich Silver King mine.

Here, again, their presence was objected to by teamsters and freighters, and the band was turned loose between the Gila and Colorado rivers, through which section they have been roaming ever since. In 1883 nine of the band were captured by Papago Indians and turned over to a circus. At that time there were twenty head in the herd, eleven of which were 2 or 3 years old. The Arizona stock is said to be a great improvement on the original.

Col. D. K. Allen, of the Yuma Sentinel, makes this statement with reference to the subject:

At the present time there are ninety-seven of them in the mountains and hills east of the Yuma and Harqua Hala wagon roads, away from the haunts of white men and Indians. They have roamed mostly in the Eagle Tail Mountains and adjoining ranges, where but few, if any, human beings ever go. It is estimated that if none had been killed there would now be not less than one thousand. They are very wild and vicious and make a hard fight when caught or even cornered.

In order to prevent the further destruction of these animals I would suggest that they be removed to some national park, such as Yellowstone or the Zoölogical Gardens in Washington City.

PETRIFIED FOREST.

In Apache County, in the eastern portion of central Arizona, about 20 miles from Holbrook, a town on the Atlantic and Pacific, is located Arizona's petrified forest. The area it occupies is covered by the land grant of the Atlantic and Pacific Railroad, every alternate section of which is reserved by the Government. It is estimated that there are about 10,000 acres in this forest, which consists of huge logs from 6 feet down in diameter. The ground is nearly all covered by trunks and limbs of petrified trees of every size and color, quantities of which have been shipped to various parts of the world and converted to ornamental uses. Recently parties have been wantonly destroying many of these logs with giant powder, blowing them open in order to obtain crystals which are found in the center. While there is little danger of the supply being exhausted by the relic and curiosity hunter, some measures ought to be adopted to prevent the destruction to which I have referred.

Inasmuch as this is the most wonderful and beautiful center of petrified woods known to the scientist, and will always be a point of great interest to the traveling public, I would suggest that the Government withdraw the land covering this forest from entry, and secure from the railroad such portion as may be included in the area of this park, and that it be set apart as a national park for the enjoyment and education of the people, and thus preserve for future generations one of the most wonderful of nature's works.

HEALTH AND CLIMATIC CONDITIONS.

There is probably no section of the country which possesses climatic conditions so favorable to the restoration and preservation of health as Arizona, especially for those suffering from throat, lung, or other respiratory troubles. On this subject I present the views of Dr. Scott Helm, surgeon-general national guard of Arizona:

> There are many conditions affecting the climatology of Arizona Territory which tend to the greatest influence for good to the consumptive, and, in fact, to all sufferers from diseases of the respiratory tract and also of the nervous organization. Owing to the peculiarities of its physical geography almost any elevation or surrounding, whether it be from the valleys below or the pine-clad hills above, may be obtained. The several cities of importance have the following altitudes: Phœnix, 1,100 feet; Tucson, 2,500 feet; Prescott, 4,500 feet; Flagstaff, 8,000 feet, and Yuma, 54 feet. It may be seen, therefore, that almost any elevation that may be desired may be obtained, and, as is well known to physicians and climatologists, many of these invalids demand a widely-varying altitude.
>
> Other matters of the utmost importance in the selection of a suitable climate for the invalid—especially a winter climate—are the character of the temperature, the precipitation and humidity, and the number of sunny, cloudless days. First, as to temperature. The mean temperature for the Territory for the year ending June 30, 1893, ranged for the months from 43.6° to 83.7°, the former being in December and the latter in July. The greatest average precipitation for the Territory for one month was 2.24 inches, and the total for the year, 8.42 inches. During the year there were 213 cloudless days, 88 partly cloudy days, 51 cloudy days, and 25 days on which 0.01 inches or more of rain fell. This does not include the month of October, during which no observations as to the character of the days were recorded. All these conditions serve in the aggregate to render an atmosphere particularly beneficial to the consumptive or other sufferer from broncho-pulmonary disease. Rheumatic conditions, malarial disorders, and diseases of the nervous organization are also greatly benefited by residence in this climate.

The winter climate of southern Arizona is warm and dry and particularly healthful to this class of invalids, and especially so with the consumptive, provided he makes an early change. Many of these invalids seek this climate to avoid the rigors of the cold and snows of the eastern winter and the fogs and dampness of the coast; and a large proportion of them receive great benefit therefrom. Many of these cases, even though far advanced in disease, experience great relief in this soft, warm atmosphere and under these sunny skies, where they may spend over three hundred days in the year in the open air.

There are a number of resorts in the mountains—notably the Castle Creek Hot Springs, near Phœnix, and Oracle, near Tucson—where the summer months may be spent with much comfort and benefit.

The following is the meteorological summary for the year:

Months.	Mean temperature for the Territory.	Average precipitation for the Territory (inches and hundredths.)	Weather—character of days.			
			Clear.	Partly cloudy.	Cloudy.	Rainy.*
1892.						
July	83.7	1.29	11	10	9	5
August	83.0	1.15	16	9	6	4
September	77.7	0.17	20	6	3	1
October	63.4	0.81	.....	.....	.....	.....
November	54.4	0.15	23	4	4	1
December	43.6	0.54	21	4	5	3
1893.						
January	47.7	0.36	22	5	4	1
February	50.3	0.85	15	7	6	2
March	52.8	2.24	16	8	7	6
April	61.6	.....	22	6	2	.....
May	69.9	0.85	24	4	3	2
June	82.0	0.01	23	5	2	.....

*Days with 0.01 inch or more.

The above is based on reports from about forty stations in various sections of the Territory, and represents the average meteorological conditions for the several months.

MILEAGE OF JURORS.

I desire, through you, to call the attention of the Department of Justice to the insufficiency of the mileage and per diem paid jurors and witnesses before the United States courts in this Territory. Transportation costs from 10 to 20 cents per mile by team or stage and living at least $2.50 per day while traveling and in attendance on court, and with one exception (the Southern Pacific, which charges 5 cents) every railroad in the Territory charges 6 cents per mile, while the Government allows but 5 cents per mile by railroad and 13 cents by stage; $2 per day to jurors en route and in attendance, while witnesses are only allowed $1.50 per day for actual attendance on courts; and by the ruling of the First Auditor and First Comptroller you will observe that the provisions of the act quoted are limited to travel to attend the United States courts, and do not include that made to attend examinations before commissioners. It must also be understood that stage lines or private conveyances should not be used when railroads are available by usually traveled routes.

The witnesses before commissioners' courts are only allowed 5 cents per mile, consequently the law is materially crippled in its first step. You will readily see from the foregoing why it is that witnesses and jurors try to avoid service, and when forced to attend court are prejudiced against the Government to such an extent as to make it next to impossible to punish offenders.

SALARIES AND CONTINGENT EXPENSES.

I would respectfully call attention to the action of Congress with regard to salaries of the Federal officials of the Territories and the contingent expenses allowed for the use of the executive office. The organic law declares that certain salaries shall be paid, yet year by year Congress, without changing the original law, reduces the amount specified by such sum as the public demand for economy may snggest. This is not only an injustice to the officials, but is not in the interest of the public service inasmuch as it leaves them at the mercy of the National Legislature so far as the question of their salaries is concerned. Similar action is taken with reference to contingent expenses. But one-half of the amount allowed under this head by the organic law is appropriated. This sum is altogether inappropriate to the needs of the department; the expenses of which are daily increasing. The sum of $500 set aside by Congress to meet the contingent expenses does not more than pay postage, telegraphic bills, and office stationery, not to mention anything of janitor, messenger, or clerical hire, etc. The duties of the executive department are daily growing, and the cost of maintaining the office is consequently becoming greater every year. This is a matter which Congress does not seem to consider when the Territorial appropriations are made.

UNDEVELOPED RESOURCES.

The undeveloped resources of Arizona are boundless. Her mountains are threaded with gold and silver veins, large deposits of iron, silver and lead, and other metals. Millions of acres of land are awaiting cultivation by irrigation, and there is the Colorado River, which, with a slight improvement, will open up a source of mineral and agricultural wealth, and will give an outlet to the Gulf of California.

An important industry in the course of development, and one which it appears will yield fabulous returns, is the production of canaigre or the tanning root, which is indigenous to this soil and climate.

The demand for this plant, for tanning and other chemical purposes, is so great that it can not be met by the supply, a fact which suggests its cultivation as one of the most important industries of this region. It is authoritatively stated that the cultivation of canaigre will give a profit of $100 an acre.

During last year Prof. C. Collingwood, J. W. Toomey, and F. A. Gulley, of the United States experimental station staff connected with the University of Arizona, made an elaborate study and experiment of this plant, its history, growth, value, cost of production, profit, etc., and published the results in a station bulletin. The importance of the information obtained warrants the reproduction of copious extracts from the same:

CANAIGRE, ITS HISTORY.

Canaigre [says the report] has been used many years by the Mexicans, both as a medicine and as a tanning material, but only in recent years has it attracted any attention as an article of commerce.

In 1868 a sample of roots was sent from Texas to the Agricultural Department at Washington, but it was mislaid and the analysis was not made until 1878. In 1889 Prof. Henry Trimble published an article on canaigre, in which he gives its history to that time and records some analyses made by himself and others. He states that Mr. Rudolph Vaelcker, of Galveston, Tex., published an analysis of roots gathered in 1874, giving 23.16 per cent of tannic acid. Roots were exhibited at the New Orleans

Exposition labeled "A new tanning material." Since then considerable attention has been given to this plant, and a number of articles have been written, both in this country and abroad, in all of which it is agreed that canaigre is a valuable tanning material.

ITS VALUE.

Among the articles which have appeared is one deserving more than passing notice: "Canaigre, a New Tanning Process," by Prof. W. Eitner. Prof. Eitner is at the head of the Vienna research station for leather industry, and a recognized authority in Europe in such matters. He has tested canaigre from the standpoint of a practical tanner. In that article he especially recommends it for its quickness in tanning, its filling qualities, and its beautiful color. He says: "I consider this article especially adapted for tanning uppers, fine saddlery, and fancy leathers. It can be used alone or in connection with other materials." He also states that at the price laid down in Vienna—18 florins per 100 kilos (about $65 per ton)—it is quite reasonable. In fact, he has everything to say in its favor and nothing against it.

The European tanners are awake to the value of this material. The German tanning school, at Freiberg, Saxony, mentions canaigre as one of the materials with which they are working and experimenting.

LIMITED SUPPLY.

The supply of wild canaigre is becoming limited. Good authorities state that at the present price the supply will hardly last more than two years. "At present price" means the supply within profitable hauling distance of the railroads. If canaigre is only to be obtained from the natural supply it will be but an incident in the tanning trade. But if, as the experiments at this station show, canaigre can be profitably cultivated, it will soon become a permanent factor, with thousands of acres of land producing yearly hundreds of thousands of tons of canaigre, and the problem will be to get the tannic acid into the market at the least expense.

GEOGRAPHICAL DISTRIBUTION.

The habits of this plant well suit it to hot and arid regions. Completing its annual growth in a few months, the remainder of the year it shows nothing above ground but dry and withered leaves and stalks. The deep-seated tuberous roots, however, are fleshy and full of moisture, and are capable of retaining their vitality through the long, hot, dry summers, until the rains of the following winter start in them a new growth; grows to highest perfection and greatest abundance in river bottoms and along washes. It seems to prefer loose, sandy soil, which is flooded at times of heavy rains. In such places it frequently forms a dense, green growth, 2 or 3 feet in height, resembling at a distance broad acres of some cultivated crop.

THE ROOT.

The tuber-like roots are the commercial part of the plant. In habit of growth, they remind one much of the sweet potato, or even more of the tuberous roots of the dahlia. In weight they vary from above a pound to a few ounces. Some are long and slender, others are nearly as broad as long. The size of the root depends to a great extent upon the soil and the amount of rainfall during their period of growth. They grow in clusters of from three to a dozen, and from a few inches to more than a foot below the surface of the soil. By examining a root in late summer or early fall a number of buds may be seen on the crown end ready to start their growth after the winter rains. The root apparently reaches its growth after the first season; however, it lives for several years, and may produce new plants and new roots each season. Possibly the large amount of tannin it contains aids in preserving it. The roots of a year's growth or more are a little more firm in texture than a potato; however, when they finally die, they become dry, hard, and nearly black throughout. In this condition they are quite as hard to cut as a piece of wood, and there is a large increase in the amount of coloring matter. By boiling, the root becomes softer, but does not break open and fall to pieces, as with the potato. The young roots are nearly white on the interior. As they grow older they become dark yellowish red, from the development of coloring matter within the cells.

AMOUNT OF TANNIC ACID IN CANAIGRE.

Samples, collected in widely different portions of the Territory, show the following composition. As old and new roots were taken together, just as they grew in

the hill, the rather wide variation is not unexpected. Fully three-fourths of the roots sampled were over one and two years old:

Near Florence, sandy loam	35.6
Near Florence, banks of Gila, sandy, rather fine	28.4
Near Florence, one-fourth mile from Gila, sandy loam	30.8, 30.5
Head of Florence Canal, banks of Gila, sand	31.9, 35.5
On mesa 20 miles west of Florence, sandy loam	29.0
Banks of Salt River, opposite Phoenix, near ditch, sandy and hard	31.7, 22.5
Banks of Salt River, opposite Phœnix, old cane field, sandy loam	33.4
Banks of Hassayampa, near Gila, rather fine sand	30.0, 23.0
Banks of Agua Fria, near Gila, sand	32.7
Banks of Salt River, near Phœnix	34.3
Average	30.62

KEEPING SEED ROOTS.

After removing from the ground, canaigre roots if piled in large heaps 4 or 5 feet deep will heat and ferment, and if in thin layers covered with dry earth they may keep indefinitely two or three years, but when moistened they will sprout and grow. Roots taken from a sack in the loft at our barn, where they had remained a year, were taken out when dry and corky, shriveled up and apparently dead, but when planted and moistened grew as readily as fresh gathered roots.

DEMAND FOR TANNIN.

The amount of tannic acid consumed in the world is enormous. Sources of supply are sought on all the continents, and there is fear of gradual exhaustion.

Most of the leather in this country is at present tanned with oak and hemlock barks and the supply is being rapidly used up, as in addition to the home use considerable quantities are exported. We also import tanning material for certain kinds of leather, and this demand is rapidly growing. One of the largest imports at present is "gambier," an extract derived from the leaves and young shoots of a tree belonging to the family "rubiacea," genus "nauclea," a native of the East Indian Archipelago, largely cultivated for this purpose. During 1891 15,000 tons were brought into the United States, valued at $1,500,000, and containing approximately 50 per cent of tannic acid. The amount used abroad is much larger, because European tanners depend more upon extracts than do those of this country. Six tons of green canaigre will make about 1 ton of extract, containing approximately the same amount of tannic acid as gambier. Ninety thousand tons of green canaigre would be necessary to replace the gambier imported into this country alone. From the high opinion practical tanners have formed of canaigre, it is not impossible that it will not only supplant gambier but take the place of many other tanning materials.

The amount exported during the past two years shows there is a demand at paying prices for large quantities, and one of the greatest obstacles in starting an industry introducing a new product to the trade is largely overcome. There is room for a large industry in growing and shipping the roots in a dry state, but the cost of labor in slicing and drying the bulky condition of the product after they are thus prepared stands in the way of the most rapid development.

The canaigre has this advantage over the sugar cane and the sugar beet, it can be prepared for market without expensive machinery for manipulation, but as the field of production is a long distance from the places of consumption, economy in transportation demands the extraction of the valuable element and placing it in condensed form.

It is important, therefore, that extract factories be established on a large scale, and that they be located on lines of transportation and where the lands in the immediate vicinity of the works may be planted to canaigre.

Our investigations in the laboratory show that there is no more difficulty in extracting the tannic acid from the roots, green or dry, than in separating sugar from cane and from beets. As in sugar making, the extraction will have to be done on a large scale and with expensive apparatus, but the returns will justify the investment.

The industry should be built on two lines, growing and manufacturing, the same as has been found most desirable and profitable in sugar production.

Capital must first be secured to build factories, after which there will be no difficulty in making contracts with persons to supply canaigre roots at stipulated prices per ton.

LOCATION OF FACTORIES.

There are several places on railroad lines in the Territory where land adapted to the plant may be procured at reasonable prices in tracts from 1,000 to 10,000 acres, where factories may be established.

The cheaper lands, such as from low situation are subject to late frosts and therefore not adapted to fruit growing, will make the best canaigre plantations. Even lands subject to occasional overflow are not objectionable. On such lands the wild growth is found in great luxuriance.

SOIL.

While the wild growth is confined to the sands and sandy loams, we find that if the roots are planted shallow and irrigated, equally large crops are produced on quite heavy soils and the roots are as rich in tannic acid. The plant seems not to be particular as to the kind of soil, provided it is kept sufficiently moist, and it may be found that our sandy loams and rather heavy soils may prove more profitable for growing the plant than the lighter soils, owing to their greater fertility and more lasting qualities without fertilization.

TIME OF PLANTING.

It seems not to matter seriously when the roots are planted, the formation of new roots beginning in the fall, from the latter part of September and continuing on until March or April. If planted in the late spring leaves will appear and lie down at the usual time in May, when the root planted will lie dormant through the summer and begin the formation of a new crop of roots at the regular season with no apparent advantage as compared with roots planted just before the growing season. If the soil is kept dry they may lie over until the next year, and then proceed to grow in the usual way when moisture is supplied.

TIME OF HARVESTING.

With the crop planted in the fall, as has been stated, growth above ground ceases the following May, but the roots, although they remain dormant, grow gradually richer in tannic acid during the year, but the increase is quite slow after July. With rain or irrigation in the fall the leaves appear above ground and a new bunch of tubers is started, but so far as we have observed the entire hill will produce no more new roots than would each single tuber if they are separated and replanted. In fact, we are inclined to think the single tuber will produce a larger new crop than the entire hill.

A point we have not yet determined is whether or not the one-year old roots increase in size the second year. They certainly grow richer in tannic acid. If they continue to grow it may be found most profitable to allow the crop to remain on the land two years; if not, the crop had better be harvested when the roots are one year old and the land replanted.

YIELD PER ACRE.

Commencing to irrigate by the 1st of October, a crop of 10 tons to the acre is a reasonable estimate for new land if the soil is fairly well prepared, and a good stand is secured by planting selected tubers of wild growth. The second year's crop from one-year old tubers should reach 15 tons, and 20 tons is within the possibilities on good land carefully planted and well taken care of.

SOCIAL CONDITIONS.

The progress of the Territory during the year in social conditions has been marked. There have been more homes established and families permanently located, especially in the Salt River Valley, than during any previous year. The increased strength of churches, reform organizations, and fraternal societies has been most gratifying.

CHURCHES.

The following indicates the strength of the various church organizations in the Territory:

Episcopal Methodist: Missions, 12; preaching places, 23; preachers, 15; membership, 554; sunday schools, 20; pupils, 1,098; value of church property, $45,200.

Methodist Church South: Churches, 6; preachers, 13; membership, 374; value of church property, $20,500; Mexican missions, 2; membership, 63; church property, $3,200.

Presbyterian: Churches, 5; ministers, 8; adherents, 500; enrolled communicants, 280; value of church property including Indian training school, $30,000.

Baptist: Churches, 9; preachers, 9; membership, 550; value of church property, $20,000.

Episcopal: Churches, 5; membership, 320; value of church property, $18,000.

Catholic: Churches, 9; chapels, 13; resident priests, 9; and a presiding bishop. The number of adherents of this church is nearly as large as those of all other churches combined. There are two commodious hospitals under the care of the Catholic Sisters, who have also charge of two orphan asylums. There is a number of other charitable institutions under the direction of this church.

Mormons: Churches, 16; members, 8,910, including Sunday-school children. It is estimated that of the members 3,813 are on the Sunday-school roll.

There is a number of Christian Endeavor societies and Epworth Leagues connected with the various Protestant churches, which comprise in their membership a large percentage of the young women and men of the Territory.

REFORM SOCIETIES.

The Women's Christian Temperance Union is represented by local organizations in each county as well as by a Territorial organization. There are also branches of the Good Templars and several kindred societies, all in flourishing condition.

FRATERNAL SOCIETIES.

The Masonic organization and all its branches are represented by local and grand lodges, likewise the Independent Order of Odd Fellows, the Knights of Pythias, the Ancient Order of United Workmen, the Grand Army of the Republic, and other societies. There are also trades and labor unions, representing the different classes of railroad and telegraphic employés.

PATRIOTISM.

A spirit of fervent patriotism is manifested by the people in the observance of all days commemorative of the patriotic incidents in the nation's history. The national flag floats over all the public schoolhouses, planting in the minds of the young the lessons which it suggests, and thus inspiring a love of country and its institutions. Special instruction in the rights and duties of citizenship is made one of the principle features in the university, normal and public schools.

THE LIQUOR TRAFFIC.

Like all frontier countries, Arizona has her full quota of drinking saloons. According to the United States Treasury report for the fis-

cal year ending June 30, 1892, there were retail liquor dealers, 666; wholesale liquor dealers, 9; retail dealers in malt liquors, 13; wholesale, 24. The majority of these saloons have gambling-hall attachments. The license paid by all saloons in cities, towns, and villages in the Territory is $200 per annum; outside of those, $40. It will be seen that if the $200 were paid on all saloons the aggregate would be $133,200 per year. As a return for this the following statement from M. F. Shaw, assistant superintendent of the Territorial Prison, as to the cause of the crimes committed by the inmates, will prove instructive. Of 143 inmates, 77 can trace the cause of their crimes to drink. An investigation into the prisons of the respective counties of the Territory shows an average of more than 60 per cent of the inmates victims of drink. The average in the county hospitals will reach 50 per cent. As an illustration, the cost of maintaining the hospital of Mohave County for the quarter ending June 30, 1893, was $2,695.65, and it is stated on good authority that every county patient except one had been brought to the institution by reason of drink, and this county has the smallest population and least taxable property of any in the Territory. The records of the Insane Asylum show an average of 25 per cent of the inmates whose insanity is due to drink. It is also estimated that the cost of maintaining the criminal courts of the respective counties, including fees of officers with the expense of maintaining the prison, hospitals, etc., creates more than 60 per cent of the cost of the county government. Thus it will be seen that by far the greatest bill of expenses entailed upon the county and Territorial government is the result of the drink habit. This fact more than anything else explains the debt of the respective counties of the Territory.

It is hard to understand why a government so enlightened and a people so progressive will license, protect, and encourage a traffic which gives no other result than the ruin of its patrons in morals, health, and finances, and imposes grievous burdens upon every department of state, fills the jails, hospitals, and insane asylums, and drapes the land in gloom. While in the states this traffic is beyond the power of the Federal Government, yet in the territories it has the power to lay its hand on it and suppress it. If this were done two years would not have passed before the Territory would have cleared itself of its debt and have reduced its rate of taxation more than half.

POLITICAL STATUS OF ARIZONA.

Political parties are not as well defined in Arizona as they are in the settled states. A large share of the population is made up of men of strong individuality, drifting in from all sections of the country; independent in thought as well as in action, liberal in their views, and consequently lacking the bias and prejudice often found among less observant people. Hence as a rule their allegiance to the orthodox political parties is more or less uncertain. Their independence in political matters is evidenced by the introduction of the Australian ballot system, which has been in vogue for the last three years. While it is true that during the last twenty years but one delegate has been sent by the Republican party to Congress from this Territory, the legislatures, as a rule, have been pretty equally divided. In the last legislature, however, the Democrats had a majority of two-thirds in both houses. The annexed returns of the vote at the last election will give an idea as to the standing of the two parties.

Congress.	Councilman at large.	Council.
APACHE COUNTY.		
Smith.....D. 424 Stewart.....R. 437	Norris.....D. 431 Cluff.....R. 406	Hunt.....D. 370 Hubble.....R. 470
COCONINO.		
Smith..... 326 Stewart..... 548	475 385	Daly.....D. 398 Nellis.....R. 460
COCHISE.		
785 461	635 570	Bruce.....D. 538 Cheney.....R. 685
GRAHAM.		
621 262	496 342	Shannon.....D. 494 Dunlap.....R. 621
MARICOPA.		
1,368 930	1,311 950	Smith.....D. 1,112 Smith.....R. 1,016 Clanton.....P. 174
MOHAVE.		
235 241	208 234	Dennis.....D. 274 Hardy.....R. 232
PINAL.		
283 258	241 251	Chamberlain.....D. 218 Doran.....R. 305
PIMA.		
691 628	647 619	Lovell.....D. 662 Grant.....R. 532 Banes.....P. 104
YAVAPAI.		
1,090 953	1,074 922	Hawkins.....D. 1,059 Head.....R. 959
YUMA.		
182 145	144 152	Nugent.....D. 236 Dorrington.....R. 109
GILA.		
398 285	390 251	Not known.

Assembly Dem.	Assembly Rep.	People's Ticket.
APACHE COUNTY.		
Martin ..... 410 Dryden 414	Bushman ..... 381 Freeman 406	None.
COCONINO.		
Ross 409	Fulton 289	Roden 147
COCHISE.		
Gray ..... 685 Tevis ..... 634 Reilley 641	Nichols ..... 537 Wright ..... 634 Pool 549	None.
GRAHAM.		
Goodwin ..... 271 Skinner 479	None	Leitch ..... 379 Brewer 485
MARICOPA.		
Rogers ..... 1098 Morgan ..... 1034 Hurley ..... 1178 Baxter 1222	Street ..... 1080 Watrous ..... 897 Marshall ..... 1107 Pease 910	Mosier 196
MOHAVE.		
Collins 180	Southwick 184	South 151
PINAL.		
Sabin ..... 175 Day 274	Graham ..... 296 Loss 235	None.
PIMA.		
Meehan ..... 599 Bruce ..... 565 Brichta ..... 460 Leatherman 583	Morris ..... 525 Schumacher ..... 582 Magee ..... 467 Chenowith 558	Noon ..... 232 Harrington ..... 160 Hoskins ..... 113 Dyer 87
YAVAPAI.		
Burke ..... 1054 Behan ..... 1156 Betson 906	Cook ..... 998 Fuller ..... 970 Aley 826	None.
YUMA.		
Field 189	Bloomer 126	None.
GILA.		
Not known	Not known	Not known.

It will be observed that the contest in the various counties was in most cases exceedingly close, so close that less than 200 votes would have reversed the majority in both houses. The Mormons cast a vote of about 1,500, which in previous elections had been given to the Democratic party, but which at the last election was divided, from one-third to one-half going to the Republicans. The reason for this change is not known, but various causes are assigned for it, the principal being that a Mormon was given a place on the Territorial Republican ticket. How the vote will be cast in the future is a matter of conjecture. I am persuaded that the conduct of the present Territorial administration will prove a most important factor in the future political status of the Territory.

STATEHOOD.

The paramount question with the people of Arizona to-day is that of statehood. For many years our people have longed for this inalienable right guarantied by the genius and spirit of our system of government. Territorial rule is an anomoly in a government by, of, and for the people. Two years ago, by authority of the legislature, delegates were elected to a constitutional convention. The convention met and framed a constitution, which was adopted by the following vote:

Counties.	Yes.	No.	Total.	Majority.	
				For.	Against.
Apache	397	84	481	313	.....
Coconino	107	172	279	.....	65
Cochise	688	233	921	455	.....
Gila	227	209	436	18	.....
Graham	705	127	*848	578	.....
Mohave	219	58	277	161	.....
Maricopa	1,357	370	1,727	987	.....
Pinal	177	161	338	16	.....
Pima	786	202	988	584	.....
Yuma	156	115	271	41	.....
Yapavai	621	551	1,172	70	.....
Total	5,440	2,282	7,738	3,223	65

*Sixteen rejected for informalities.

Arizona has the population and the taxable property to entitle her to the right of self-government. Her people have passed through the ordeal of conquering this Territory from savagery to civilization. Less than a quarter of a century ago the entire Territory was in the hands of the Apache Indians. Now, after a struggle of many years, in which a large number of pioneers and many of their families were sacrificed, thousands of families have established homes in our mountains and valleys. In place of the war whoop, the voices of children in the schoolhouse are heard, and on the Sabbath the churches, whose spires point heavenward, resound with the same songs of praise and devotion as ascend from the churches in the far-off Eastern States. All kinds of humanizing influences have taken hold upon the Territory—commercial, educational, reformatory, and religious. The arid plain is made to yield to the industry of the farmer and is dotted with gardens and orchards everywhere. The Indian goes on his raids no more, but is gathered into the reservations, and in place of plying his trade with the scalping-knife and deadly rifle he is engaged in tilling the

soil and his children are being educated in the schools. Many of the States admitted during the last forty years had no greater population than Arizona has now, no more developed and much less undeveloped wealth, not as many schoolhouses, churches, or refining agencies. Our people have trodden the winepress of suffering in order to reach that promised hope written in the Constitution of our country—*self-government.* The citizens of the older States should be mindful of the fact that our people are their people; the population which stands to-day knocking for admission to statehood is made up of the sons and daughters, the sisters and brothers of those in every State in the Union.

It is urged by some that we have a debt upon our hands. It is true, a debt of $3,000,000, but it must be remembered that this debt, which includes Territory, counties and municipalities, is only a small part of the cost of the reclamation of this region to American civilization and all it means. In lieu of it we have given to the States the sum of $94,000,000 out of our mines alone. Could any other Territory, when claiming admission, show a better record than this?

Objection has been raised to our Mormon population. This population does not exceed one-eighth of our people, and it must be added there is no more thrifty, temperate, industrious, or better disposed body of citizens in the Territory. The practice of polygamy is now unknown among them. They have done as much to bring about the prosperous conditions with which Arizona is blessed to-day as any other section of the community, especially in the reclamation of the soil by irrigation, of which they are the acknowledged masters and the pioneers in the United States.

It is likewise urged that Arizona is a strong Democratic Territory. A consideration of this kind is not in keeping with true patriotism. Apart from this, however, the statement is erroneous. Arizona to-day is doubtful; it has been doubtful for a number of years. By a careful analysis of the vote recorded at the last election, which gave the legislature to the Democratic party by a majority of two-thirds, it is shown that with a reversal of less than 200 votes the same majority would have been given to the Republican party. This ought to be sufficient evidence to that party that it would have an equal show in the contest for the control of the State government. Hence there should be no objection from this source.

Again, it is claimed that Arizona is a silver Territory and that, as a State, her vote would be given in the interest of silver as against gold. This claim is likewise an error. Arizona is to-day more of a gold than a silver producing Territory. Her gold production was more than treble her silver production last year. From the present outlook her yield of gold will be ten times greater than that of silver this year.

But it is said that her debt would indicate she has not shown her capacity for self-government. I would remind those who advance this argument that with statehood, and the arid lands placed at our disposal, with the power to raise money to reclaim them, Arizona would soon have an amount of taxable property which would not only redeem the Territory from debt, but would, in a very few years, reduce the rate of taxation to the minimum.

Statehood, moreover, would excite a spirit of patriotic pride among the people. The responsibility of self-government would inspire in the people loyalty to those elected by them to administer public affairs. Statehood would create a State pride among all classes of citizens and among our children, especially the native born. It would give the

people a direct interest in the Federal Government, in national legislation, in the general welfare of the union of States of which Arizona would be one. Every sentiment of justice, the principles struggled for by the Revolutionary fathers, the admission of every State into the Union for the last half century, is a declaration of Arizona's right to statehood.

CONCLUSION.

To sum up, no one who looks at the condition of Arizona with impartial eyes, to-day, can fail to acknowledge her rapid approach to the condition of prosperity of the older States. Her advancement is of that character which is the best guarantee of permanence—gradual, steady, solid. Side by side with her material progress is her intellectual, social, and religious. It has been shown that during sixteen years the sum of $94,000,000 has been taken out of her mines, and the fact that during the present year her gold output will reach the sum of $6,000,000 demonstrates that her gold-mining industry never looked so bright as it does at this time. The development of agriculture and horticulture is equally remarkable. The extent of the new irrigation enterprises will be seen by a reference to the portion of the report devoted to that subject.

To turn from the material to the intellectual, social, moral, and religious: For the support of our public schools we pay more than $140,000 per annum. The liberal salaries paid to teachers, an average of $79.77 per month, secure for the education of our children talent equal to that of any State in the Union. Our normal school turns out every year a corps of teachers fit for the highest positions in their profession. Our university has in its different departments professors equal to those employed in any similar institution in the East. The school of mines, the school of agriculture, and the U. S. Experiment Station are doing a work for the development of the territory which enables the farmer and the miner to reap the greatest reward from the valleys and the mountains, which nature has so bountifully supplied with riches. Our churches, Sunday schools, and charitable organizations keep pace with the growth of our population. In a word our people are typically American. While we are not free from that block to the progress of the world—the saloon—yet its presence is counteracted by temperance associations and other institutions which are fast bringing it to the position where, like other social evils, it is banned by all who have a regard for the good opinion of the community.

Among the recommendations which the report contains is one with reference to the Colorado River and another relating to the arid lands. This latter, of course, is a subject upon which Congress will not be apt to legislate for one Territory alone. I believe, however, that if the lands were ceded under some such conditions as those I have named it would result in equal advantage to our people and to the National Government. The opening up of the Colorado River to the Gulf of California, an improvement which could be effected at a small outlay, would give to the Territory a waterway not only to the Pacific coast, but to the seaports of the world. The plea for statehood voices in varying words the sentiments and arguments of our people. Congress has been given some idea of our struggles in the past, of our victory over difficulties which seemed almost insurmountable, of our present prosperity, and of our still brighter hopes. Our exact political standing has been shown. If any such consideration as politics could play a part in the decision of

Congress on our plea, the facts which I have given prove that there is no reason why one party or the other should obstruct our path to the goal which we have been endeavoring so long and so earnestly to reach. I have stated some of the many grounds upon which our people base their prayer for admission to the Union. The rest lies with the national legislature. I can only give expression to the earnest hope—and in this I but voice the feelings of a majority of our citizens—that the prayer may be favorably answered at an early day.

Very respectfully, your obedient servant,

L. C. HUGHES,
Governor of Arizona.

Hon. HOKE SMITH,
Secretary of the Interior.

SUMMARY OF RECOMMENDATIONS.

1. That the public lands be ceded to the Territory or State.
2. Increased protection of the customs border.
3. Legal tenure of grazing lands.
4. Appropriation for experiments in school of mines.
5. Discontinuance of Indians as soldiers.
6. More general appointment of military Indian agents.
7. That the San Carlos coal fields be segregated from the White Mountain Indian Reservation and opened for settlement.
8. That the abandoned military post and buildings at Fort Lowell be set apart as an Indian industrial school.
9. That Indian children be educated in the Territory.
10. Reduction of the Colorado River Indian reservation.
11. That appropriations be made for the supplying of water to the several Indian reservations for irrigation purposes.
12. That the boundary lines of the Indian reservations be surveyed.
13. That the United States courts be given jurisdiction in the trial of all offenses committed by Indians, etc.
14. That Indian depredation claims be speedily settled.
15. Extension of the geological survey to Arizona.
16. That the mileage of United States jurors and witnesses be increased.
17. Improvement of the Colorado River.
18. Appropriation for Federal buildings.
19. Appropriation of $40,000 due the Territory for the Territorial penitentiary.
20. That the Government take cognizance of the cost and danger to the Territory of the liquor traffic.
21. That 2,000 acres of land adjoining the Territorial prison be set apart for the use of that institution.
22. The survey of the lands within the grant of the Atlantic and Pacific that they may be utilized for the purposes of taxation.
23. That the Arizona camels be sent to some National park.
24. That the Arizona petrified forest be set aside as a National park.
25. That appropriations be made to pay the Federal officers the salaries and expenses provided for by law under section 1845, Revised Statutes of the United States.
26. That Arizona be admitted to statehood.

REPORT

OF

THE GOVERNOR OF NEW MEXICO.

POPULATION.

During the past year there has been no material change in the population. The only appreciable increase by way of immigration has been in localities favorable to irrigation enterprises. On the lands covered by the Pecos Irrigation Company's ditches in Eddy and Chaves counties, on the Maxwell grant in Colfax County, and in San Juan County, there has been a healthy influx of people of a very desirable class. They come from the more thrifty and wideawake farmers of the Eastern States, whose attention has been attracted to the advantages of food manufacture under irrigation, and the very best class of European immigration. Eddy, Chaves, and San Juan counties, where the settlement of this population has been greatest, are distinctively American counties. The irrigation propositions to be mentioned hereafter will attract a greater number of these healthy people.

LAND TITLES.

Before considering the question of land settlement, it is proper to advert to the work of the United States Court of Private Land Claims. No act of Congress for many years has effected so important an advance towards the permanent prosperity and well-being of this Territory as the act creating this court. The colonization policy of the Spanish and Mexican governments shaped itself in the granting of large areas of land to communities or individuals. The aim seemed to be to attract the mass rather than the individual elements of population. Vast acreages, with undefined and uncertain boundaries, were claimed under many of these grants. Some were valid, others were believed fraudulent. Small tracts were often held under valid grants with exterior boundaries designated by natural monuments which were by designing or evil-disposed persons often changed to include territory vastly greater than that to which they were entitled. For many reasons Congress delayed action in this matter for more than a generation after the acquirement of the territory and the guarantee of its ancient land tenures. Clouded titles and insecure tenures of land were therefore uncommonly frequent in New Mexico, creating an almost insuperable obstacle to settlement and a blight on prosperity. That New Mexico has quadrupled her population under American control is a source of wonder to those conversant with the facts. This era, however, is regarded as ended. This court is busily engaged in sifting

these grants, establishing absolutely valid titles to just grants, and restoring to the public domain large areas improperly claimed.

The personnel of the court is almost perfect. Their labors have been arduous, but willingly, intelligently, and diligently performed; and I am happy to report that a goodly number of the most important claims have been finally determined. Thousands of acres have been returned to the public domain, and righful claimants have been vested with legal title to thousands of others.

The statutory period during which claims might be filed in this court expired on March 4, 1893. We have therefore reached the point where we know definitely the number of acres claimed under all sorts of these grants, where they are situated, and the general nature of their titles. This was hitherto confused and confusing. It is now hoped that within a very short time the work of this tribunal will be completed, and the unhappy condition of land titles ended forever in this Territory.

The following is a summary of all the claims that have been presented to this court up to date, showing the acreage claimed in the cases disposed of and also the acreage for which they have been approved.

Recapitulation of the work of the Court of Private Land Claims August 31, 1893.

Total number of cases filed for land in New Mexico	262
Grants confirmed for land in New Mexico (cases Nos. 1, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 18, 21, 22, 28, 30, 31, 35, 39, 43, 53, 57)	23
Grants rejected for land in New Mexico (cases Nos. 4, 12, 26, 27, 49, 100)	7
Appealed to Supreme Court:	
By claimants (No. 26, 27, 50, 100	4
By United States (Nos. 1, 31, 35, 43)	4

The following is a complete list of claims determined:

No. Case.	Name.	County.	Estimated No. acres claimed.	Estimated No. acres confirmed.
1	Cubero	Valencia	47,743	16,000
4	San Antonio del Rio Colorado	Taos	18,000	.....
5	Arroyo Hondo	do	23,040	23,040
6	Sebastian de Vargas	Santa Fe	41,000	14,000
7	B. M. Montado	Bernalillo	151,000	43,597
8	Albuquerque	do	17,361	17,361
9	Lucero de Godoi	Taos	40,000	27,000
10	Rancho del Rio Grande	do	109,043	109,043
11	Alameda	Bernalillo	106,244	106,244
12	José Duran	Santa Fe	426	.....
13	Socarro	Socorro	17,361	17,361
14	Fr. Montes Vigil	Rio Arriba	35,000	35,000
15	Antonio Sedillo	Bernalillo and Valencia	152,879	88,000
16	Gijosa	Taos	20,000	20,000
18	Pachecho	Santa Fe	500	500
21	Cristobal de la Serna	Taos	30,000	30,000
22	San Marcos	Santa Fe	1,890	1,890
26	Rancho de Galvan	Bernalillo	30,000	.....
27	San Antonito	do	32,000	.....
28	Nuestra Señora, etc	Rio Arriba	20,000	20,000
30	Piedra Lumbre	do	39,062	39,062
31	Luis Jaramillo	Bernalillo	18,000	18,000
35	Jacona	Santa Fe	46,241	36,241
39	Caja del Rio	do	70,000	60,000
49	Domingo Valdez	do	500	500
50	Zia, Santa Ana and Jemez Pasture Grant	Bernalillo	382,849	.....
53	Canada de los Alamos	Santa Fe	13,706	9,500
57	Nicolas Duran de Chaves	Valencia	50,000	49,000
100	Canon de San Diego	Bernalillo	10,000	.....
	Estimated total		1,558,875	815,839

	Acres.
Estimated total confirmed	739,595
Estimated total cut and rejected	819,280

SMALL HOLDINGS.

The amendment to the act creating this court vests in the surveyor-general of the Territory the power to confirm title to tracts less than 160 acres held under a title of possession for more than twenty years. Two thousand one hundred and sixty claims have been filed under this provision, and it is estimated that this number will be increased by from 800 to 1,000 more before the expiration of the period fixed for such filing. This extends tardy justice to a large number of small farmers whose holdings were too small to justify the expenditure necessary to prosecute their claims in the courts, but who otherwise would have no legal guarantee of quiet possession of the fruit of their labors. The time for filing these small holdings claims expires on the first day of December, 1894.

NECESSITY OF IMMEDIATE SURVEYS.

I desire to call the attention of the Department to the importance of immediately surveying the grants confirmed by the court and the small holdings passed upon by the surveyor-general. Until such surveys are made it can not be accurately known where the boundaries of these tracts are located. Doubt as to their location prevents, in many instances, the settlement of adjacent lands. If the work proceed *pari passu* with the labors of the court it may be handled very easily. If, on the other hand, it is allowed to accumulate, much hardship will be wrought and the department greatly embarrassed in the end. It is, therefore, hoped and earnestly urged, both for public and private interests, that a sufficient appropriation will be made by the present Congress for the survey of these grants. Delay in this matter will be expensive and prejudical to National and Territorial interests.

PUBLIC SURVEYS.

During the year ending June 30, 1893, 2,343 miles of Government lines were surveyed and established, 376 plats were made, 95 mineral locations surveyed, and 2,000 claims for survey of small farms, under the "small holdings" clause of the land-court act, were filed in the office of the surveyor-general.

PUBLIC LANDS.

During the year ending June 30, 1893, the entries at the several land offices of New Mexico were as follows:

Las Cruces land office.

No. entries.	Class of entry.	Acres.	Amount.
10	Preëmption	1,125.79	$1,407.24
4	Commuted homestead	639.58	799.48
23	Excess	115.76	144.78
25	Mineral	560.2219	2,880.00
2	Supplemental mineral	.....	45.50
9	Original desert	1,582.40	395.60
23	Final desert	1,831.21	1,831.21
24	Mineral applications	12,411.10	.....

The approximate statement of the area of unsurveyed and surveyed land in this district is as follows:

County.	Surveyed.	Unsurveyed.	Total.
	Acres.	*Acres.*	*Acres.*
Donna Ana	3,817,260	1,680,300	5,497,560
Grant	3,378,816	2,127,360	5,506,176
Sierra	1,390,994	125,440	1,516,434
Socorro	5,176,855	1,205,620	6,382,475
Total	**13,763,925**	**5,138,720**	**18,902,645**

Clayton land office.

No. entries.	Class of entry.	Acres.	Amount.
26	Preëmption cash 4,155	4,155	$5,194
9	Computed timber culture	1,400	1,750
7	Computed homestead	1,120	1,400
6	Excess entries	22	28
227	Original homestead	35,869	3,611
71	Final homestead	11,343	426
2	Original desert	270	67
	Total	54,181	12,709

The approximate area of surveyed and unsurveyed lands in this district is as follows:

County.	Surveyed.	Uusurveyed.	Total.
	Acres.	*Acres.*	*Acres.*
Colfax	1,757,760	157,460	1,915,220
Mora	1,222,875	76,800	1,309,675
San Miguel	1,809,166	135,760	1,944,926
Guadalupe	1,684,970	100,000	1,784,970
Lincoln	256,560	15,380	271,940
Total	**6,731,331**	**485,400**	**7,226,731**

The statement of business of the Roswell land office, as reported to me, is as follows:

Lincoln County.

	Acres.
Lands filed on	3,553
Lands open to filing	2,651,805
Lands (school)	184,400
Lands unsurveyed	1,986,840
Land unsurveyed (school)	101,120
Military and Indian reservations	614,500
Forest reservation	29,685
Total	5,571,903
Lands filed on, last report	444,652
Total in Lincoln County	6,016,555

Chaves County.

	Acres.
Lands open	4,176,810
Lands filed on	8,533
Lands (school)	284,960
Lands unsurveyed	1,744,080
Lands unsurveyed (school)	99,840
Total	6,314,223
Lands filed on, last report	245,024
Total in Chaves County	6,559,247

Eddy County.

Lands filed on	12,206
Lands open to filing	1,259,652
Lands surveyed	107,920
Lands unsurveyed	2,063,400
Lands (school)	121,600
Total	3,494,778
Lands filed on, last report	218,482
Total in Eddy County	3,713,260

SANTA FE LAND OFFICE.

Statement of business transacted at the Santa Fe land office for the fiscal year ending June 30, 1893:

Sales.	Entries.	Acres.	Receipts.
Land sold for cash	40	2,441.97	$5,212.00
Coal land for cash	9	1,277.93	25,559.20
Desert land sales	13	2,157.51	540.00
Final desert land sales	17	7,857.56	7,937.56
Mineral	5	58.30	305.00
Total	89	13,792.30	39,554.16
Homestead entries	201	28,260.74	3,008.00
Final homestead entries	174	27,102.85	1,086.36
Preëmption entries	3	480.00	9.00
Coal filings	47	7,327.10	141.00
Mineral applications	5	687.59	50.00
Final timber entries	2	239.95	8.00
Atlantic and Pacific Railroad	687	109,899.98	1,370.00
Testimony	.....	.....	370.68
Total	1,119	173,997.91	6,047.04

The approximate area of surveyed and unsurveyed lands in this district is as follows:

Counties.	Acres.	Counties.	Acres.
Unsurveyed.		*Surveyed.*	
Socorro	41,120	Valencia	215,015
Santa Fe	46,080	Bernalillo	199,010
Valencia	222,745	Total	414,025
Mora	276,480		
San Miguel	230,400		
Colfax	85,301		
Taos	345,600		
Bernalillo	492,190		
Rio Arriba	990,720		
San Juan	3,576,000		
Total	6,306,636		

TAXABLE PROPERTY.

The last legislature passed an act exempting from taxation $200 worth of property, when owned by the head of a family. This law, and the privilege granted, has been considerably abused, and will largely reduce the value of taxable property in this Territory.

The following is the rate of assessment for the year 1893:

For Territorial purposes, 6 mills on the dollar.
For special deficit, 2.25 mills on the dollar.
For normal schools, .40 mills on the dollar.
For normal institutes, .05 mills on the dollar.
For branch agricultural experiment stations, .25 mills on the dollar.
For casual deficit bonds interest, .25 mills on the dollar.
For Territorial institutions, 1.75 mills on the dollar.
For cattle indemnity fund, one-half of 1 mill on the dollar.
For public schools, 3 mills on the dollar.
For normal school experiments, .05 mills on the dollar.

The Territorial auditor also further reports to me that the assessed valuation of the Territory is $41,602,198.41.

Four counties, Bernalillo, Grant, Lincoln, and Mora, have not submitted tabular statements of their assessments, although the sum total has been reported.

The itemized valuation on real estate, live stock, and other personal property in the counties reported, is as follows:

County.	Value of lands and improvements.	Value live stock.	Value of other property.	Total.
Bernalillo	.....	.....	.....	$6,430,243.00
Chaves	$309,587.00	$642,293	$348,634	1,300,514.00
Colfax	1,960,100.00	1,030,860	837,940	3,828,900.00
Dona Ana	1,213,120.00	409,108	1,399,816	3,022,044.00
Eddy	603,471.82	523,754	429,726	1,557,222.28
Grant	.....	.....	.....	4,341,208.00
Lincoln	.....	.....	.....	1,770,611.00
Mora	.....	.....	.....	1,710,801.00
Rio Arriba	269,585.05	221,218	597,057	1,067,851.35
San Juan	256,510.00	239,551	81,886	577,947.00
Santa Fe	1,744,020.00	127,865	1,070,961	2,942,846.00
San Miguel	2,079,158.00	1,213,879	1,692,568	4,985,605.00
Sierra	427,653.00	402,931	879,058	1,709,642.00
Socorro	1,006,469.00	976,984	1,449,563	3,433,016.00
Taos	308,254.00	128,869	348,518	785,641.00
Valencia	854,953.00	625,771	637,352	2,138,096.78
Total	.....	.....	.....	41,602,198.41

FINANCES.

Herewith I submit from the Territorial auditor a statement showing the amount of warrants issued during the forty-third fiscal year against funds for said year; also warrants against balance of funds of forty-second fiscal year, and deficit funds for the years 1889, 1890; also warrants in settlement of accounts prior to March 3, 1889, against general funds.

Funds.	Forty-second fiscal year.	Forty third fiscal year.	Deficit 1889–'90.	General fund.
Penitentiary current expense	.....	$34,106.08	.....	.....
Capitol current expense	$59.33	4,668.92	.....	.....
Salary fund	3,221.79	301.66	$112.70	.....
Court fund	4,828.82	72,606.13	3,754.10	$31.50
Miscellaneous	3,436.90	28,572.81	.....	.....
Territorial institutions	9,000.00	21,860.68	.....	.....
Compensation of assessors	288.61	9,315.40	120.00	.....
Transportation of convicts	64.00	2,820.60	.....	.....
Interest on warrants	.....	6,570.45	.....	.....
Public school fund (proceeds of licenses to insurance agents)	.....	419.50	.....	.....
Pay of officers and employés thirtieth legislative assembly	.....	17,728.80	.....	.....
Especial appropriations	6,686.05	5,686.05	111.24	.....
License fund	.....	329.75	.....	.....
Total	20,898.45	234,851.62	4,098.04	31.50

TERRITORIAL INDEBTEDNESS.

The following is a tabulated statement of the territorial indebtedness brought down to August 29, 1893:

	Interest.	Due.	Amount.
	Per cent.		
Capitol building bonds	7	1904	$100,000.00
Do	7	1905	100,000.00
Penitentiary building bonds	7	1894	109,000.00
Current expense bonds	6	5–20	150,000.90
Provisional indebtedness fund	6	20–30	200,000.00
Capitol contingent bonds	6	1903	50,000.00
Insane asylum bonds	6	20–30	25,000.00
Casual deficit bonds	5	20–30	75,200.00
Refunding bonds	6	20–30	95,000.00
Outstanding warrants	.....	.....	7,512.27
Total	.....	.....	911,712.27

The Territorial treasurer reports a cash balance in the Territorial treasury of $121,000 on June 30, 1893.

SETTLEMENT UPON PUBLIC LANDS.

The progress in settlement upon public lands can be ascertained from the business statements of the several land offices and an examination of the homestead, preëmption, and other cash-entry sales which appear heretofore in this report.

RAILROADS.

By an act of the last legislature approved February 13, 1893, new railroads, or extension of existing lines, construction upon which is commenced and some portion thereof opened for traffic, within three years from the date of the act, shall be exempt from taxation until the expiration of six years from and after the completion of the road or roads, they being deemed completed when the same is opened to the public for business.

Under this act considerable construction was had and some little preliminary work done. The stringency of the money market, which has marked the present year, put a stop to the proposed work.

The Pecos Valley Railroad has been completed 97 miles from Pecos City, Tex., to Eddy, N. Mex., and is in process of construction from that point to Roswell and beyond. Over 100 miles of this road have been surveyed and located. It runs through an exceedingly rich country, and the work will be of a very easy character. It will run from Eddy to Roswell, 80-odd miles, with only three tangents. During the next two years it will be completed to a junction with the Santa Fe Route. Beyond this there has not been nor is there immediately contemplated any railroad construction in the Territory. This proposition is, however, extremely important, as it will form the shortest interoceanic route in the United States.

STOCK-RAISING.

New Mexico's stock interest has very greatly decreased as the result of four years' continuous drought of unknown severity in our history. So disastrous has this been that immense areas were for a long time barren of food for cattle; and this was worse as these districts were almost entirely dependent on native grasses. The loss incident to this drought would have been very much greater but for the supply of cultivated hay and forage imported to the ranges from irrigated fields.

During this summer, for the first time in five years, we have had abundant rains over the whole Territory. Plains and mesas, that for two or three years have been barren, and upon which it was feared that the roots of the grass had died or been stamped out, are again covered with luxuriant grass more than sufficient to furnish food for all classes of stock during the next twelve months. It is reported from many places that the native hay, if cut, would yield from one-half to 1 ton per acre. In this climate, however, very little native hay is cut. The continous sunshine cures the grass in the field, and it is as nutritious and valuable for food standing on the plains as it would be if cut and housed.

In Eddy there has been quite a development in raising high-grade stock. Over $200,000 worth of blooded horses and cattle have been imported into that country during the past year and a half.

MINES AND MINING.

The decrease in the value of silver and lead and the great stringency of the money market have closed down the mines in many camps of this Territory during the past year. I have no reliable data justifying me in stating the actual product of the different minerals during the year ended June 30, 1893. Until there is some change in the financial condition of the country, and the position of silver as a circulating medium determined, the mining of precious minerals in this Territory is not likely to assume any large proportions.

The Territory has, however, great undeveloped resources, consisting of industrial minerals and precious stones that in the near future will be the source of great revenue.

COAL.

Chief among them is that of coal, of which there are large beds of bituminous situated in nearly every county in the Territory, and an extensive body of anthracite coal near Cerrillos, in southern Santa Fe County.

Of this mineral there was mined during the past year at Gallup, on the Atlantic and Pacific Railroad, 292,650 tons; at Blosburg and Raton, Colfax County, 244,955 tons; at Cerrillos, Santa Fe County, 18,747 tons; at Monera, Rio Arriba County, 20,000 tons; at Carthage, Socorro County, 49,529 tons. The works at Cerrillos, in Santa Fe County, are being largely increased, and before the end of the present year this camp will be producing about 1,000 tons of bituminous coal per day and 5,000 tons of anthracite per month.

GYPSUM.

In south Santa Fe County, in the county of San Miguel, and in several other places in New Mexico, are to be found large deposits of this mineral. In Dona Ana County, on the San Augustin Plains, there exists the largest deposit of gypsum known in the world, of an exceedingly pure character. The location of this deposit is unique. The San Augustin Plain is about 150 miles in length from north to south, and from 30 to 60 miles from east to west. Near White Oaks, in Lincoln County, in the midst of this plain, is the crater of an ancient volcano, the lava from which has flown in a southerly direction like a stream of water for a distance of 60 or 70 miles, varying in width from a half to 3 miles. At the southern end of this stream of lava there is a small stream of salt water flowing into a salt lake, about 1 mile in width and 1½ miles in length. At the southern end of this lake the bed of gypsum begins, and extends in a southerly direction down the center of the plain, adjoining what appears to be an ancient river bed, almost without a break for a distance of 50 miles. The gypsum bed varies from 5 to 20 miles in width. It is granulated in character, white as the driven snow, and seems to be piled up on the plain like snow drifts, requiring no labor for mining or for handling. I can not more accurately describe its appearance than by comparing it to granulated sugar. If you should take granulated sugar in one hand and the gypsum in the other it would be difficult to tell one from the other by sight or touch. The body of gypsum stands from 10 to 40 feet above the surrounding plain, and the line is as distinctly marked as the sand upon the ocean beach.

CARBONATE AND SULPHATE OF SODA.

Immediately adjoining this extensive deposit of gypsum upon the west, and in what is apparently the bed of an ancient river or lake, exists a deposit of carbonate and sulphate of soda, carrying about 15 per cent of carbonate of soda, 20 per cent of sulphate of soda, 4 per cent of borax, the remainder being mostly moisture and sulphate of lime. This deposit is about 1 mile wide and 5 miles in length. Its depth is unknown. At from 2 to 4 feet below the surface water is encountered, which is largely impregnated with these minerals and with chloride of sodium. Explorations have been made in several places throughout the deposits by driving down tubes to a depth of from 20 to 30 feet without discovering any change in the character of the deposit.

There is also a considerable deposit of carbonate of soda near Manzano, in the county of Valencia, and near Wagon Mound, in the county of Mora. I have no reliable data, however, as to whether these deposits are extensive enough to be of commercial value.

KAOLIN AND FIRE CLAYS.

These valuable minerals have been found in considerable quantities in several places in the Territory. The most notable deposit of fire clay worked to any considerable extent is situated near Socorro in Socorro County. There has been a recent discovery of a large deposit of kaolin and fire clays in the suburbs of Santa Fe, of superior quality. Efforts are now being made to utilize these clays at the Territorial prison. In the immediate vicinity there is also found a considerable bed of graphite, and it is hoped that in the near future it will be extensively worked.

ALUM.

A large deposit of alum has been opened on the Gila River. It is reported to be of great commercial value, and is now being worked to some extent. With proper railroad facilities these alum beds, and the beds of gypsum and soda, heretofore referred to, would become the most productive properties in the Territory.

PRECIOUS STONES.

In describing the mineral resources of New Mexico the native precious stones are worthy of mention, as they are steadily rising in popular estimation and in production.

Traditionally this Territory has been noted as having produced some remarkable gems, and recent developments are proving the older records to have been correct. It is only recently that scientific research and skilled labor have been directed to this purpose. The result is a steady increase of expert prospecting and labor in development which, though only fairly begun, has resulted in finding many varieties of precious and semi-precious stones.

The estimated production and value of gems up to the year 1890 can be found in the Census reports of that year. It is worthy of remark that the amount of and value are understated, the facilities for correct and full information being limited.

Since that time the annual product has more than doubled and is still increasing. Diligent prospecting has revealed new deposits, and the industry bids fair, at present, to become a large item in the economic resources of the Territory.

The gems found in New Mexico, in the order of their value, are emeralds, there being one now in Santa Fe cut, which weighs 1 karat, and is of fine quality. Many other smaller ones have been found, although no expert search has been made for them thus far.

A very recent find, next in value, is a gem resembling the ruby, in respect of color, brilliancy, and hardness. Of these quantities are found frequently associated with peridots and garnets, but differing from the latter in being harder and of a different specific gravity and form of crystallization. The range of color is from a light rose or pink to that of a bright red garnet. Though no very large ones have been found, yet gems cut from those found have sold at $20 to $50 each, while their numbers and merit make them a decided acquisition to the list of precious stones of New Mexico, which must, when more widely known, create for them a large demand.

The turquoise deposits of the Territory are too well known to require an extended description. It is only necessary to state that while some

of these gems have been famed in Europe for centuries, yet in the United States they have never met the appreciation their merits and rank, as gems, deserved, until the last few years. Now they are in great demand, having been pronounced by experts equal, if not superior, to the Persian turquoise. There are single gems from Santa Fe County now in New York held as high $4,000, and some in Santa Fe of nearly equal size and quality.

This sudden appreciation has given a stimulus to farther research, resulting in finding large turquoise deposits near Silver City, in the Hatchitas and Cow Spring Mountains, of great merit. One of the new discoveries is phenomenally large, considering quantity of production, size, and color of stones found in it.

In addition to the above named are found native euclase; the so-called Montana sapphires; garnets; milk and fire opals; peridots; a great variety of fine agates, besides petrified woods, fit for inlaying, mosaic work, or jewelry. Gold and silver quartz, valuable for fine work in jewelry, are produced from various mines.

IRRIGATION AND AGRICULTURE.

Agriculture in New Mexico is successful in isolated instances under the natural rainfall. As a general proposition, however, crops can not be matured without irrigation or the artificial application of water. Large areas of the Territory consist of extensive mesas or plains, and bottom lands, to which water is easily conducted by means of open ditches. These areas lie along either side of the rivers that traverse the Territory, and the greater portion thereof is exceedingly fertile and adapted to the growth of nearly every variety of grass, fruit, and vines grown in the temperate zone. A few native grasses, principally the black and white gramma, grow naturally without irrigation, cure in the sunshine and furnish food, summer and winter, for the great herds of range cattle. These natural grasses, however, would not support even a sparse community. By utilizing the storm waters and the immense natural flow of the streams that pour from the snow-capped mountains in the spring and early summer, many thousands of acres of land can be successfully irrigated, and thereby changed from an arid desert to blooming gardens, from barren waste to the most productive fruit farms.

Irrigation prospects, so far as they can be advanced by private enterprise and so far as sure profit on investment is concerned, are very promising. Not only are vast works building and projected for saving and utilizing large bodies of water now going to waste, but serious attention is being given to the cultivation of new products, specially adapted to our soil and climate, such as canaigre and sugar beets. The analyses of sugar beets by the United States Department of Agriculture show that New Mexico, and especially her two northern tiers of counties, is most favorably located for this culture. They show the highest general average of purity, percentage of solid matter and of sugar, of any State or Territory.

Canaigre is a tanning agent. It is a species of the sour dock, and the dried root contains about 33⅓ per cent of tannic acid, or a higher average than the very best oak bark. It grows wild on most New Mexican plains and mesas, and in that state yields from 1 to 4 tons to the acre. In rare instances as high as 5 tons per acre have been gathered wild. Under very simple cultivation and scanty irrigation as high as 10 tons have been harvested; and it will average from 10 to

20 tons per acre. The United States experiment station attached to the Agricultural College at Las Cruces, has two fields planted now. One of them is irrigated and the other is dry. The habits and evolution of of this plant from the wild to the cultivated state are being closely watched and recorded. At Deming, Grant County, splendidly equipped extracting works have been erected, and the product is being shipped to several tanneries in this country and in England. Hon. C. B. Eddy, of Eddie, N. Mex., general manager of the Pecos Irrigation and Improvement Company's projects, has received an offer from New York parties to purchase 75,000 tons per year of canaigre for a period of 5 years at $10 per ton, green in the field, which he was unable to accept, as his experiments in the culture of this plant had not proceeded far enough to enable him to determine his ability to fill the order; but he has three 40-acre tracts in cultivation, planted at different times, and he estimates that the yield per acre will be about the same as Irish potatoes.

In the matter of irrigation development the Pecos Valley enterprise boasts of the best and most extensive system of irrigation extant on this continent. Five years ago this great valley was a barren plain occupied by a half dozen cattle-raisers. To-day it is one of the most promising farming regions in the West, with a population of over 17,000 souls and two flourishing towns. This has been accomplished in the face of the greatest difficulties. The capacity of the storage system projected and nearly completed, to save the flood and storm waters, aggregates over 15,000,000,000 cubic feet. The canals cover 500,000 acres, nearly all in New Mexico. The water supply is ample, as the tremendous spring flow from the snow-capped mountain ranges will more than fill the reservoirs. The low-water flow of the Pecos River is 500 cubic feet per second, and this is again supplemented with a flow from springs of between 1,200 and 1,500 cubic feet per second. The crops in this country are thriving. One thing notable is that the farmers only use an acre-foot of water per annum, or 42,260 cubic feet. This is about the lightest duty of water known on strictly farming lands. Sixty thousand acres of land have already been disposed of in this valley to bona fide farmers, and 20,000 are now actually under cultivation. These lands, that in their natural state only produced native grasses, and that in such limited supply as to require 20 acres to furnish food for a single steer, now produce abundant crops of grain of every description, yield five cuttings of Alfalfa per year of about 1¼ tons per acre per cutting. Hundreds of orchards and vineyards have been planted and are already beginning to yield abundantly.

To handle the product of this region, the Pecos Valley Railroad has already been built from Pecos City, Tex., to Eddy, N. Mex., and all the preliminary work has been done to push it northeasterly to a junction with the Santa Fe system at some point between Las Vegas and Albuquerque.

In the famous Mesilla Valley, in southern New Mexico, this season's harvest of orchard and vineyard will be superabundant. Last season many orchards there yielded $10 per tree, and this year the yield is so large that even at current low prices the returns will be much larger.

In Grant County two important enterprises to save the underflow of the Mimbres River are well under way to water lands around Deming. South of this town, and just across the Mexican boundary, over 12,000 Mormon colonists have quietly settled, Deming being their trade center and distributing point. The development of underflow of the Mimbres River is therefore of extreme importance. Sufficient work has been

done to prove that beneath the surface there is a continuous flow of water sufficiently large to irrigate many thousand acres of land, and this water can be brought to the surface and utilized at a very small cost.

In the south central portion of the Territory there is a large project to reclaim part of the Jornado del Muerto and the Armendaris land grants. The engineers and experts have reported favorably on the proposed improvement, and it is expected that my next report will deal with the actual work of reclamation of this region.

San Juan County keeps up her steady improvement. There are but few large irrigation enterprises in this county. The farmers themselves own nine-tenths of the canals. The absolute abundance of water here makes irrigation easy. This is the only part of the arid region where there is more water than land. The arable area is only about 450,000 acres, and there is water for a couple of million of acres.

The rumors of railroad building to the mines in Taos and Rio Arriba counties promise large agricultural development in their extensive garden-like valleys.

The irrigation works on the Maxwell grant have progressed to completion. Colonization goes steadily on. Many families have been located on the irrigated lands during the past season. Altitude and latitude combine to render these lands the best known for sugar-beet culture.

A company has been organized known as the Valverde Land and Irrigation Company, for the purpose of reclaiming the Armendaris grants. It has acquired title to the Armendaris grants Nos. 33 and 34, containing 447,535 acres of pastoral and coal lands, situated upon either bank of the Rio Grande River. The company has recenty completed a very thorough survey of this property to ascertain the area susceptible of irrigation and the cost of reclamation. From the report of the surveyor I learn that 25,000 acres are susceptible of irrigation by means of gravity ditches, taking supply direct from the river, heading at points high enough up to insure distribution. This land is classed as bench, bottom, and lower table lands, all with dark and gray loams, and alluvial soil of the very best quality. It is proposed to reclaim this body of land by the natural flow of waters and without any storage whatever. It is also estimated that about 60,000 acres of the upper bench or mesa land may be reclaimed by the construction of reservoirs. These latter lands possess a light, sandy soil peculiarly adapted to the culture of fruit trees and of wine, table, and raisin grapes, such as are now being grown so successfully in the Mesilla valley.

Col. Richard J. Hinton, late chief of the United States irrigation inquiry, has recently made a thorough examination of the Rio Grande basin, in the vicinity of this property, with a view to ascertain the quantity of water now going to waste, and the feasibility and practicability of providing storage reservoirs to save and utilize this flow. From his report I learn that the Rio Grande furnishes an average flood supply of at least 5,000 second-feet for about ten weeks in the year. It has a lesser flood season, late in the summer, the flow of which would be about 3,000 second-feet. He estimates that the flood supply, available for the Valverde Land and Irrigation Company, if properly stored and utilized, would irrigate not less than 300,000 acres of land, and under conditions such as exist in New Mexico a second-foot of water would be worth $250 per annum. The total value of the water now going to waste is estimated at $1,000,000 per year. The system of ditches proposed by this company is intended to supply water not only to

their own lands, but to about 100,000 acres of public and private lands adjacent to the lands of the company.

Another irrigating enterprise, undertaken within the year, is the reclamation of some 30,000 acres of land situated upon one of the Baca floats, and upon the Pablo Montoya grants, by utilizing the waters of the Canadian River, and a company is now being formed to originate a new irrigation scheme of large proportions from the waters of the upper Pecos River, by placing them upon the Anton Chico, Antonio Ortiz, and Beck grants. The enterprise, however, is not sufficiently advanced to enable me to state with any degree of accuracy the extent thereof or the quantity of land capable of reclamation.

In Santa Fe County an important enterprise is under way. One reservoir has already been built to supply Santa Fe City with water for domestic purposes and to irrigate about 2,000 acres of garden and fruit land. In the Arroya Hondo, a natural storage basin, another is projected to cover 15,000 acres of splendid level mesa. The spring and storm flows will be saved, and the aggregate area reclaimed by this scheme will be over 100,000 acres. Careful estimates of the amount of water available have been made and the plan is found to be feasible and practicable. In their character these works resemble those of southern California. Their advantage to New Mexico will be enormous, as they will demonstrate how great an aggregate area can be reclaimed from the stored flow of small streams considered of little importance heretofore. These lands will be principally devoted to garden and orchard purposes.

The splendid results achieved by the Pecos Valley Irrigation and Improvement Company, and the wonderful change produced by its labors, have given a new impetus to irrigation in New Mexico by practical illustrations of the feasibility of such works, the cheapness with which they can be built, and the short time required to change an arid desert into grain fields, bearing vineyards and orchards, as well as the profit to be realized by such investment. Of these lands many thousands of acres, which less than five years ago were purchased for $1.25 per acre, have sold during the past year and are now selling at $50 and $75 per acre.

The future prosperity of the Territory and its ability to support a dense population depends almost entirely upon the extent to which irrigation may be successfully carried. The efforts of the past have shown the wonderful productiveness of the soil after reclamation, and present efforts are proving the large acreage susceptible of irrigation at a very small expenditure of capital.

A condition of some seriousness has arisen among the earlier settlers and proprietors in the Rio Grande Valley that may prove at an early day the destruction of their farms and orchards, unless active measures are taken to prevent the injury now being done. In these localities are situated the homes of the larger number of small farmers and planters who have been able to reclaim their lands without any large aggregation of capital, each small settlement and generally each farmer owning his own ditch. In the past the natural flow of the Rio Grande has been sufficient at all times to supply with water the cultivable lands under ditches. During the last few years the very extensive increased use of water in the San Luis Valley, in Colorado, where immense ditches have been constructed and their laterals extended to cover several hundred thousand acres of land, have caused a gradual decrease of the waters in the vicinity of El Paso, Tex., and for a distance of about 150 miles in this Territory, where it has produced a water famine for sev-

eral months annually during the last four years, which has gradually grown more serious until the present year, when farmers' crops have been saved by abundant rainfall. This is rendered still more serious by reason of our Territorial condition, depriving our citizens of the privilege of protecting their violated rights in the United States courts, thereby compelling them to seek their remedies in the State courts, where they would meet with all the local prejudices which exist in a community interested in the decision of the subject-matter in litigation.

Two-thirds of the food supply of the world is produced in arid regions by means of irrigation, and the densely populated regions of Persia, China, East India, and Japan depend almost entirely on irrigation for their food supply, having a rainfall less than that of the arid regions in America. Japan contains 23,000,000 acres of arable land, supports 8 persons to the acre, with crops grown solely by irrigation.

With a soil as rich as that found in any portion of the world, adapted to the growth of every variety of grain, vegetables, vine, and fruit produced in the temperate zone, a climate unsurpassed, it would seem that the American desert might, with sufficient capital and effort for the saving and utilizing of the flood waters of summer and the melted snows of winter, be in time made the garden of America, the home of a larger population than now inhabits the fertile valleys of the Mississippi and its tributary streams. Under present conditions the utilization of these waters is impracticable by private effort. It will be seen by reference to the private enterprises heretofore mentioned as being successfully realized that they are in connection with large properties, privately owned (with one exception) by titles derived from the Spanish or Mexican governments, the areas being sufficient to justify the expenditure of large amounts of capital in procuring the water for reclamation.

The policy of the Government has, to a certain extent, retarded the reclamation of the arid public lands and prevented the development of regions requiring large expenditures for reclamation. The law known as the alien act, preventing foreigners from owning lands in the Territory, has forbidden the investment of foreign capital, and the act of Congress prohibiting any corporation or individual from acquiring more than 5,000 acres of land has prevented, in many instances, the investment of home capital, such quantity being insufficient to justify the expenditure required to construct the reservoirs and canals.

Where the water of great rivers like the Pecos, the Rio Grande, and the Colorado of the West, with their tremendous annual floods, are to be controlled, placed in reservoirs, and preserved to the use and redemption of vast bodies of desert land, it is necessary to use immense sums of money, more than can usually be obtained from private sources; fettered by laws preventing the investor from obtaining title to or a lien upon the land reclaimed, and requiring the services of the most experienced engineers, with great technical knowledge, and a thorough calculation of the results to be achieved, it is believed that the work should be conducted by the Government to prepare homes for the citizens, that each individual may be the owner of his own homestead, look alone to the Government for his water supply, and not be subjected to the avarice and oppression too apt to exist where a private corporation is the owner of the water which in the end controls and dominates the ownership of the land. This has been the policy of the Government as exhibited by the passage of the laws above referred to, as well as by many acts of Congress with reference to the homesteading, preëmption, and sale of public lands to bona-fide settlers in all parts of the nation. The policy of internal improvement has been the policy of our Govern-

ment. Untold millions have been expended in the construction of levees, in the improvement of rivers, in the building of canals and railroads for the general welfare of the people. The time has arrived when this policy should be extended to a reclamation by the General Government of the large bodies of arid lands situated in the great West.

This subject is rendered still more important in view of the fact that nearly all the public lands lying in that portion of the Union where crops can be raised without irrigation have been disposed of, the Government being possessed of only a limited quantity of such lands for disposal to the homesteader and actual settler, while her population is increasing more rapidly than at any time in the past. This population must depend almost entirely upon the arid region for homesteads, which can only be rendered habitable and productive by means of irrigation, requiring an expenditure of capital impossible for the settler to obtain, and which must be furnished either by the Government or by some private corporation, and when furnished by the latter, the settler becomes at once the dependent and servant of the corporation that may at any time make the water tax so burdensome as to be unbearable. For these reasons it is earnestly urged that the Government should continue its policy of internal improvement and extend it to include the reclamation of these lands. The overcrowding of population at the trade centers requiring relief, together with the exhaustion of the lands suitable for homesteads in the temporal region, creates the necessity. The experience in opening the lands of Oklahoma and the Cherokee Strip proves the demand and the precedent of internal improvement steadily adhered to in the past justifies the hope that the Government will see the wisdom of reclaiming its vast domain, of preserving and distributing the waste waters to create homesteads for the rapidly increasing population. By this means millions of acres of desert land may be occupied and made as productive as the fertile valleys of the Mississippi, the East relieved from the congestion of over-population, the homesteader supplied with land upon which to support himself and family, and the desert of to-day transformed into the world's granary of to-morrow.

INDIANS.

The change in the policy of the Government recently made, which places Army officers in charge of the various Indian reservations throughout the Territory, has only been in operation a few months, but there is everywhere a marked improvement in the service, and it is believed that time will prove the wisdom of the change. Army officers are peculiarly adapted to the management and control of the Indians, bringing to their assistance the firmness of character, system, and order learned nowhere else so well as in the Army.

PUEBLOS.

There are situated in various parts of New Mexico some twenty villages occupied by the Pueblo Indians. To each of these villages was given either by the Kingdom of Spain or the Republic of Mexico land grants averaging about 6 miles square. The titles to these lands have, in some instances, been confirmed by the Government, and in others the Indians have applied to the land court now in session in this Territory for the approval of title, survey, and segregation of their land. This is being done as rapidly as possible with the great amount of other business pending before that tribunal.

The Pueblos are different from all other American Indians. They were living in towns and cultivating lands when the Spaniards first visited this country. They were not then and never have been warlike in character. They are a quiet, law-abiding, peace-loving people, with small intellect, simple in their manners and life, with very little energy, making little or no progress in self-advancement. The Government schools established in the Territory are working some changes among the younger members of the tribes, and give prospect of an early improvement in their manner of life.

Under the Mexican laws these Indians were citizens of the Republic, and by the treaty of Guadalupe-Hidalgo became citizens of the United States, with all the rights and obligations of other citizens. Their lack of education, their simplicity and ignorance, rendered them unfit to exercise the right of suffrage, a privilege they do not seem to appreciate. Their poverty and their primitive mode of life made the payment of taxes a great burden to them. Each of these villages has its organized government, its governor and council that make and execute the simple laws necessary for their government and protection. These laws are so justly and equitably administered that one seldom hears of a Pueblo Indian appealing to the laws of the land from the decision of the ruling authorities in his pueblo.

The feeling upon the part of the citizens of the inadvisability of permitting so primitive a people to exercise the right of suffrage and the desire of the Indians to avoid the burden of taxation, lead to an early tacit understanding that the Indians were not to exercise the right of suffrage, and that so long as they refrained from so doing their property would be exempt from taxation, and this in practice is the law of the Territory to-day.

These Indians do not need an agent such as is required by the warlike and more uncivilized tribes. There is no necessity for compelling their obedience to the law, for they obey it of their own will, so far as they know it, What they need is a guardian—some one to instruct and direct them, who will look after their interests as those of a child and see that they are not robbed and despoiled of their property by their more crafty and intelligent neighbors. They need an agent who will win their respect and confidence, and by example, teach them the necessity and benefits of industry, of economy, of education, of cultivating their lands by the use of improved machinery, and the saving and preservation of their water rights.

The new agent, John L. Bullis, captain Twenty-fourth Infantry, U. S. A., has entered upon his duties in a manner calculated to inspire confidence in the Pueblo Indians and is managing and controlling their affairs in a satisfactory manner.

There is no material change in the population of the Indian villages since the last annual report of the governor of this Territory

JICARILLA APACHES.

The Jicarilla Apaches are a small remnant of a very worthless tribe of Indians inhabiting the northern portion of the Territory. They are nonprogressive, and it seems impossible that they can ever be made self-sustaining. The tribe is annually diminishing in number. It is also under the control and management of Capt. Bullis. Great complaints have heretofore been made about these Indians constantly wandering from their reservation and depredating upon their neighbors. I am credibly informed that several hundred of them have spent the greater

portion of the last three or four years off the reservation, in the county of Mora, where complaint is made of their trespasses upon the stock of that region. They do not work, have no property except a few ponies, and so must live by plundering from the people. It is hoped that the present agent may be able to compel them to return upon their reservation and stay there. Capt. Bullis, the agent in charge, makes the following report with reference to the number and condition of the Pueblo and Jicarilla Apache Indians:

PUEBLO AND JICARILLA AGENCY,
Santa Fe, N. Mex., August 29, 1893.

DEAR SIR: In reply to yours of the 2d inst., requesting a report from me as to the condition of the Pueblo and Jicarilla Apache Indians, I have to state that as I only took charge of the agency on July 1, last, I must depend for my information on the annual report of my predecessor, which has just been made for the year ending June 30, 1893.

From said report it appears that no census of the Pueblo Indians has been taken this year owing to lack of an appropriation for the same, but it is estimated that they have slightly increased in numbers during the past year. According to the last census they numbered 8,536; males over 18 years of age, 2,701; females over 14, 3,512; children between 6 and 16 years of age, 2,323.

With regard to education there is a decided improvement, the parents offering less objection than formerly to their children attending school.

The Pueblos have conducted their farming operations as usual, and fair crops have rewarded their industry. Owing to the fact that at this period of the season their crops are for the most part ungathered, it is impossible to even approximate what has been raised by them. They will have abundance for their own consumption and a fair amount, as usual, to market.

Stock-raising has received a consideraale share of their attention, and their stock shows a decided improvement over former years.

JICARILLA APACHES.

From the last census taken of these Indians the total number of this tribe was 842. Number of males above 18 years of age, 195; number of females above 14 years of age, 273; number of school children between the ages of 6 and 16, 279.

There has been some improvement shown in their farming operations during the past year, though progress is slow in this direction.

The season at Dulce is a short one and much that is planted does not mature. There was no loss in their stock last winter as abundance of hay was put up in the fall. Some of these Indians have taken to sheep-raising, an industry which, with ordinary care, should do well on this reservation.

As an evidence of their desire for more comfortable quarters than the teepee affords, quite a number of comfortable houses have been built of late, and, in a few instances, modern furniture has been introduced.

The presence of a number of Mexican settlers on this reservation has to some extent, had a demoralizing effect on the Indians. Whisky has at times been sold to them with the usual degrading result. Repeated efforts have been made by the agent to discover the guilty parties, but hitherto without success. It seems that if this whole business was wrapped in such secrecy as to defy every attempt to find and convict the wrongdoers. These efforts will, however, be continued until the parties engaged in this nefarious traffic are brought to justice.

Very respectfully,

JOHN L. BULLIS,
Captain Twenty-fourth Infantry, Acting Indian Agent.

Hon. W. T. THORNTON,
Governor, etc., Santa Fe, N. Mex.

In view of the disposition of these Indians to constantly leave their reservation, their persistant trespass upon the citizens in the vicinity, the distance of the reservation (some 250 miles by railroad), from the headquarters of the Pueblo Agency, and the necessity to have at all times an agent upon the ground, I renew the recommendation made by Governor Prince in his last report, that the Jicarilla Apache agency be made a separate and independent agency.

MESCALARO APACHES.

There is little or no change among the Mescalaro Indians. Little, if any, progress has been made by them in the way of farming, and I have no personal knowledge of improvements or change in their mode of life. The late agent, Louis F. Burnett, captain Seventh Infantry, U. S. A., under date of August 4, reports as follows:

At the census of June 30, 1893, the number of Indians belonging to this agency (Mescalaro Apache), was as follows: Men, 102; women, 205; boys, 122; girls, 97; total, 526. Number of children at school at Fort Lewis, Colo., 26; at Grand Junction, 31; at agency school, 50. Estimated number of stock, 250 horses, 10 mules, 60 burros, 100 cattle. It is believed that the horses are increasing and the cattle decreasing in number. They have no sheep. This tribe lives in New Mexico. Trading whisky with the Indians has a bad effect, but fortunately it is not very extensive. This can not be controlled until the testimony of Indians is taken in preference to that of the "whisky trader." If one of these traders could be punished it would have an excellent effect. These Indians are quiet and peaceable. There is never any trouble with any of them unless they get drunk, in which case they are dangerous and ugly. Some of them have small farms, but, as there is not enough land which can be irrigated, all can not farm who desire to do so. A few of the Indians live in cabins, but most of them live in tents and frequently move their camp.

NAVAJOES.

This is the most important Indian tribe in the Territory, and its management and control is a question of very great import to our people. The tribe numbers fully 20,000 souls, about one-third of whom reside in New Mexico, and two-thirds in Arizona. Their reservation consists of about 9,400,000 acres, or 15,000 square miles of territory. Their agent estimates that they own 1,000,000 head of sheep, 250,000 goats, 1,000 head of cattle, and 100,000 ponies, and that they marketed during the past two years about 1,000,000 pounds of wool per annum.

It would seem from the large amount of land owned by these Indians that it was possible for them to be kept permanently upon their reservation. There is no better body of land in the Western country than this reservation. There is a considerable area upon which oats, barley, and a few grasses may be successfully grown without irrigation. The Government survey, completed last year, shows a large quantity susceptible of irrigation at an exceedingly small outlay. It being estimated that $64,000 would open up sufficient water holes for the use of their animals, and develop the water supply required for irrigating as large a quantity of land as the Indians would require or are likely to work under present conditions, I most earnestly advise that the Government, as early as practicable, cause this expenditure to be made and thus remove any real or pretended excuse which the Indians now have for grazing their stock outside of the reservation for at least two-thirds of the year. The land which they own, being a principality in itself, is generally sufficient, even in its present condition, to supply food for the number of animals possessed by them.

The Navajoes are most accomplished thieves, and they make use of the pretended want of grass and water as an excuse for leaving their reservation, when the real object is to steal the sheep, goats, and cattle of their neighbors. Their depredations have been so constant of late years as to render it impossible for others to successfully raise either cattle, sheep, or horses in the vicinity of this reservation. One citizen of this Territory lost at various times during the first three months of this year over 4,000 head of sheep, which were traced to the reservation, and some of them seen in possession of the Indians, who refused

to give them up. Constant complaint is made by small sheep and cattle growers. A number of the larger herd owners have had their flocks so decimated as to compel them to dispose of the remnant and abandon their ranges. There has been some excuse for the grazing of the herds off the reservation for the last two or three years, occasioned by the failure of food as the result of the great drought that has existed for that period. But with the improvements made as suggested in the report of the late commission this excuse would be removed.

From the very efficient agent, E. H. Plummer, first lieutenant Tenth Infantry, U. S. A., I learn that the condition of these Indians is worse than it has been for a number of years. He correctly, in my opinion, attributes the true cause of such deterioration to two sources: First, to a succession of very dry seasons, which have caused a greater scarcity of forage, very poor crops, the loss of many sheep and ponies by starvation during the winters, the very poor yield of wool, and the low prices received; and, second, to the traffic in whisky. He shows a most pitiful condition existing throughout the reservation, and that even now, during the season when they should be in possession of money from the sale of their wool, many of them are in a condition bordering upon starvation. This naturally occasions the commission of depredations, and it is no uncommon thing for them to be caught killing cattle, which they excuse by saying that they are hungry and that their children are crying for food.

Among other things, Lieut. Plummer reports as follows:

The sheep herds, the main support of these Indians, have been decreasing for several years through necessity of selling and killing them to gain food. On account of the continual inbreeding and from starvation, the range being overstocked with herds of degraded ponies, which are driven back and forth long distances for water and tramp out as much or more grass than they eat, the ignorance and indigent condition of these people is almost incredible. I saw recently a grown man, who, in telling of a horse deal, could not count up to 10 in his own language.

Many of them have no distinguishing name in their own family and among their fellows. Their poverty is such that how they manage to exist is a source of wonder to those who know them intimately.

The Navajoes are naturally of a roving disposition and of indolent, improvident habits. There seems to be little or no improvement or change in their habits, even with those who have built houses, many of which are deserted during the great part of the year, while the owners roam about with their herds or cultivate farms at a distance from their houses. I can give no reliable data as to progress, but judging from personal observation and investigation it would appear that these Indians have rather gone backward than forward during the past two years. This is due in a measure to their being discouraged by continual failure of crops, loss of stock, decrease in yield of wool, and the low price of that staple. If habits and condition of living supposed to pertain to civilization can be taught the Indians at all, example must certainly be the leading factor in their instruction, and the reservation Indian will naturally look to the agency for his model. In many ways the condition of affairs at this agency can scarcely be considered up to a par with the civilization of the surrounding Indians.

Then follows a description of the condition of affairs at the agency, which would not be likely to impress the Indians with the benefits of civilization. The want of method in the arrangement and detail of affairs, the insufficient means in the possession of the agent, the dilapidated buildings, worthless tools, broken wagons placed at his disposal, and the careless slipshod manner in which the duties had been performed, could not help but have a bad effect upon the Indians. In another portion of the report the agent says:

The Navajoes are scattered over fully 15,000 square miles of territory, many living fully 100 miles from the reservation [and that] though money was appropriated at the last session of Congress for developing water on this reservation, as yet no ground

has been broken or work of any kind commenced on the reservation, and two years must now elapse before the Indian can profit by a crop raised under the proposed systems. In the meantime their condition is not only pitiable, but extremely dangerous. There is on this reservation a great deal of land from which crops may be raised without irrigation, and, if under cultivation, would materially assist in their support. Oats sown under my direction on a piece of land of this description are in a most flourishing condition, standing over 4 feet high at present. To bring such land under cultivation the Indians need assistance in breaking up the land the first time.

Farther on in his report he recommends—

that the work of constructing ditches and reservoirs on this reservation be commenced at the earliest practicable date, and that the work be pushed to completion as speedily as possible; also that an additional appropriation be asked for that water may be developed on the reservation.

The Navajoes are distinctively horse and sheep raisers, and to assist and encourage them in this line of work, that they may be able to support themselves, they should be provided liberally with a supply of alfalfa seed. This excellent forage crop is not only admirably adapted to this soil and climate, but to the need and character of the Navajoe Indians. Arrangements should also be made for the obtaining of a cross breed of hardy sheep, and of such a breed of horses as would raise the degraded ponies of these people to a serviceable and saleable grade of horses.

I quote thus fully from the report of the agent, realizing the importance of the subject and the necessity of following his suggestions. These Indians are the wards of the nation. Common humanity demands that during the time they are in a state of pupilage, and under the control of the Government, it should furnish them such assistance as will enable them to make a respectable living, especially when it is shown that a very small pittance is required to open up and develop a water supply upon the reservation sufficient to meet their present wants and to give them the opportunity of beginning to learn the advantages of self-support by the cultivation of the soil.

I heartily concur in the recommendations of Lieut. Plummer that immediate steps be taken to develope at the earliest possible moment the water supply upon the reservation. This will not only be performing an act of justice to the nation's wards by supplying them with water for their stock, and the means of earning a living by farming, but it will in a large measure prevent the conflicts now so frequently occasioned by the roaming of the Navajoes off their reservation, and the crowding of civilization toward it. With plenty of water for their animals and for irrigation there would be no excuse for the Indians to leave the reservation; with the excuse removed he can be confined to the reservation and better controlled and disciplined by the agent.

WHISKY TRAFFIC.

Another cause of poverty among the Navajoes is their great love of drink, which they will gratify by the sale of the last hoof of their stock. Upon every side of the reservation may be found small storekeepers whose ostensible business is the exchange of goods for the wool and pelts of the Indians, but whose real business is the secret selling of whisky to them. So far as I have been able to learn there has not been a conflict between the Indians and the settlers for a number of years not caused directly through the sale of whisky to the Indians or by their thefts. It is impossible to bring these violators of law to justice, except by the expenditure of large sums of money. The fees paid the marshals do not justify them in assuming the expense and incurring the danger incident to making the arrests and securing the testimony necessary to make convictions. The stores are generally located in isolated localities, where the trading can be done with impunity. The

Indians will not, as a general rule, betray the party from whom they purchase drink, and when they do testify, so little confidence can be placed in their statements that jurors very rarely convict. The persons who engage in this traffic are generally bad men who are willing to take great risks that they may make large profits. They realize the danger connected with their business and would not hesitate to take the life of any man if they thought it necessary to their own safety. A realization of this fact frightens the timid settler and prevents him from preferring charges where he would otherwise do so.

Lieut. Plummer, in speaking of this matter, says:

> Those who sell whisky to the Indians are known to their neighbors, but the latter are afraid to be the means of the whisky sellers being brought to trial. Drunken Indians threaten and frighten the women and children of the settlers, but they are more afraid of the villains who do the selling than they are of the dangers that threaten their families.

A resident dare not attempt their arrest and conviction, for if he fails he would no longer live in peace. He would be persecuted in various ways. The Indians would be induced and aided in running off his stock; his property would be secretly destroyed, and, if this did not induce him to move to other parts, his life would be taken.

I recommend that the Department appoint two or three special detectives or deputy marshals to remain for a number of months upon the borders of the reservation. They should assume some occupation, live and associate with the lawbreakers until they obtain proof necessary for their arrest and conviction. A few arrests and convictions of the most prominent offenders would put an end to this traffic in a large measure. When they once learn that a few fearless, determined men are secretly working in this matter, backed by the strong arm of the Government, they would stop their traffic and seek less dangerous occupations.

I can not close this part of my report without expressing my approving opinion, most generally concurred in by the people of the Territory, of the most excellent service performed by Lieut. Plummer since he was assigned to duty at the Navajoe agency. He has been untiring in the performance of the most arduous duties, protecting both the Indian and the settler. Particular reference is made to the outbreak in San Juan County in the early part of the present year, where he acted with great firmness and coolness. But for his promptness and courage it would have been impossible in the excitement then existing to have arrested and turned over to the civil authorities the Indian assassin of Mr. Welch without producing a conflict resulting in the loss of many lives. He acted with like discretion and firmness in several other instances, thereby preventing serious trouble. The arrest of the Welch assassin will have a great moral effect upon the Indians. When it is once learned that there is a responsibility attached to crime, and that when one of the tribe leaves the reservation and robs, steals, or murders, the Government will follow him back to his home and cause his arrest and delivery to the civil authorities for punishment, he will be much more careful and prudent in his conduct. The Indian lawbreaker is not unlike his class among the more civilized nations. It is the certainty of punishment that stays his hand.

PUBLIC SCHOOLS.

The Territory is to be congratulated upon the very appreciable advancement made in its educational institutions during the last few

years. As time passes the wisdom of what is known as the Paulin school law, passed in February, 1891, becomes more apparent. Under its beneficent provisions, with the very ample revenue derived from taxation and from fines and liquor and gambling licenses, the public schools in every part of the Territory are steadily advancing. The number of scholars in attendance is increasing and the class of teachers and the grade of schools much improved. The following extracts from the report of the Hon. Amado Chaves, superintendent of public instruction, made December, 1891, and included in the last annual report of my predecessor, I feel to be of sufficient importance to repeat here, as it will give an idea of the present condition of educational affairs, not, however, showing the advance made, as we have no reliable statistics prior to that time:

The last legislative assembly of the Territory passed a law establishing a common-school system and creating the office of superintendent of public instruction. This law was approved on the 12th day of February, 1891, and went into effect immediately thereafter. By the provision of this law a Territorial board of education was created, consisting of the governor of the Territory, the superintendent of public instruction, the presidents of the university, of the agricultural college, and of St. Michael College. Prior to that time there had been no system to govern our common schools, if common schools we had, and the money collected for school purposes was simply used in various ways in most of the counties, without being of any benefit to the children throughout the Territory. It is now very gratifying indeed to me to be able to report that a change for the better is already apparent. The law has not been in operation long enough to show its effects fully, but great progress is being made in every one of the counties. A number of new and substantial schoolhouses have been erected, better teachers have been employed, and the adoption of a uniform series of books has improved the work, also reducing the expenses considerably. In several of the counties, bonds have been issued and sold for the erection of new schoolhouses.

No opposition has been encountered in any part of the Territory in the matter of introducing English-speaking teachers in districts where heretofore Spanish alone had been taught. In this connection I have to say that it is very pleasing to me to be able to state from personal observation that the greatest interest is being shown, in the Spanish-speaking counties in behalf of the new law, which requires that the English language shall be taught in all the common schools of the Territory.

Under the provisions of the present law no person can teach in this Territory without being in lawful possession of a proper certificate. Such a certificate is issued only to persons who have passed a satisfactory examination before a board of examiners composed of the county superintendent and of two leading citizens of each county, selected and appointed by the district judge. The result of this provision has been that every one of the common schools of this Territory is now taught by a competent teacher well versed in the English language and in many cases in both English and Spanish.

The progress that is being made by the native children is satisfactory in the highest degree, and it is apparent that before many more years there will be no longer a necessity for interpreters in our courts or legislatures. Educational interest is on the increase in all parts of the Territory and, by improving the advantages which the new law gives us, a good business education is within the reach of all classes, the rich and the poor alike.

The following table is compiled from the reports of county superintendents made October 1, 1891:

County.	Number of school districts.	Teachers.			Enrollment.			Average daily attendance.		
		Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Bernalillo	47	19	17	36	1,034	591	1,625	784	293	1,077
Chaves	4	3	1	4	165	174	339	103	95	198
Colfax	39	22	19	41	684	530	1,214	504	350	854
Dona Ana	31	9	9	18	331	253	584	174	118	292
Eddy	9	2	7	9	200	137	337	180	147	327
Grant	24	9	26	35	295	249	544	214	93	307
Lincoln	39	15	20	35	422	387	809	261	300	561
Mora	44	30	14	44	1,554	712	2,266	1,100	534	1,634
Rio Arriba	38	36	.....	36	1,372	364	1,736	533	349	882
San Juan	20	8	10	18	262	173	435	188	122	310
San Miguel	89	60	29	89	4,225	3,481	7,706	2,437	1,720	4,157
Santa Fe	23	6	3	9	236	132	368	154	112	266
Sierra	11	9	7	16	323	230	553	164	113	277
Sorocco	47	29	13	42	1,051	673	1,724	621	393	1,014
Taos	21	26	2	28	760	219	979	559	381	940
Valencia	37	25	2	27	1,097	263	1,360	1,086	253	1,339
Total	523	308	179	487	14,011	8,588	22,599	9,062	5,373	14,435

As may be seen from the following annual statement of receipts for school purposes, the money derived from licenses, poll tax, fines, etc., amounts to $108,322.04, all of which went to the precinct where collected, while that from direct assessment only amounts to $54,260.04; and, as the superintendent reports, this gave an undue proportion of the school fund to the towns and cities, where the saloons are situated, and only a very small sum for the support of the country districts. This mistake was corrected by an act of the last legislature, which carried a third of the license and all of the fines to the county school fund. In addition to this, the levy of 2 mills for school purposes made in 1891 was increased in 1892 and 1893 to 3 mills. During the year very great attention has been given to the building of schoolhouses, particularly in the larger towns. Nearly every town in the Territory is now provided with a good schoolhouse, and some of them with from three to five. The amount of money expended for this purpose during the year 1892 appears in the annual report of the superintendent of schools found below. The superintendent also reports with reference to the character of the teachers as follows:

> So far as the quantity and quality of the work of the schools has been affected by the character of the teachers there has been great improvement. During my official visits to the various counties I have noticed with a good deal of pleasure the changes that have taken place for the better and the manner in which the teachers conduct their schools. This is due in a great degree to the normal training which many of the present teachers have received at Las Vegas, Albuquerque, and Silver City, where successful normal institutes have been held, attended by hundreds of scholars.

The same most efficient officer, in his report dated December 31, 1892, says:

> There has been great progress in school work during the past year in nearly all the counties of the Territory, as will appear from the accompanying statement which gives a fair insight as to the amount of work done in each county during the year. This has been specially true in the districts deriving benefit from licenses. I regret to have to say that in districts where license money has not been available the work accomplished has not been as satisfactory as would otherwise have been. One-half of the license money, at least, should go to the general school fund. On the whole, excellent work has been done, and with more ample means greater good results will be obtained.

The following from the annual report of the superintendent for the year ending December 1, 1892, shows the number of teachers, enrollment of scholars, and average daily attendance at the several schools, the number of scholars between the ages of 5 and 20, the number of schools, average number of months taught, with the receipts and expenditures:

County.	Number of districts.	Teachers.			Enrollment.			Average daily attendance.		
		Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Bernalillo	47	37	28	65	1,830	922	2,752	1,494	777	2,271
Chaves	4	3	3	6	136	93	229	82	45	127
Colfax	39	26	12	38	473	643	1,116	260	300	560
Dona Ana	23	10	16	26	594	404	998	346	255	601
Grant	37	13	32	45	681	564	1,245	516	415	931
Lincoln	39	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mora	46	40	12	52	1,204	887	2,091	588	433	1,021
Rio Arriba	39	35	6	41	1,611	835	2,446	912	701	1,613
San Juan	22	12	10	22	305	184	489	229	138	367
San Miguel	83	74	32	106	2,740	1,730	4,470	1,870	1,124	2.994
Santa Fe	23	24	11	35	902	636	1,538	681	406	1,087
Sierra	12	11	7	18	372	314	686	187	132	319
Socorro	48	26	21	47	1,177	746	1,923	649	392	1,041
Taos	27	23	4	27	753	1,246	1,999	1,049	877	1,926
Valencia	37	26	3	29	934	235	1,169	771	203	974
Total	532	360	197	557	13,712	9,439	23,151	9,634	6,198	15,832

County.	Number of scholars between the ages of 5 and 20 years.			Number of schools.	Average number of months taught.	Receipts.		
	Males.	Females.	Total.			Balance Oct. 15, 1892.	From county school fund.	Licenses, poll tax, fines, etc.
Bernalillo	2,638	2,202	4,840	56	4½	$10,916.64	$9,978.84	$29,920.55
Chaves	274	178	452	5	5½	1,249.10	3,101.50	2,360.60
Colfax	1,207	1,710	2,917	32	3½	.....	.....	.....
Dona Ana	1,523	1,276	2,799	21	5½	6,220.95	5,512.61	6,085.37
Grant	1,535	1,214	2,749	34	4½	31,024.08	6,894.74	11,470.44
Lincoln	1,009	740	1,749	.....	.....	.....	1,632.14	.....
Mora	1,743	1,555	3,298	52	5	.....	.....	2,948.14
Rio Arriba	2,114	1,743	3,857	39	4½	.....	4,429.30	7,322.72
San Juan	348	426	774	20	3½	500.46	1,263.34	2,082.57
San Miguel	3,964	3,294	7,258	106	3½	15,747.57	5,971.25	14,757.17
Santa Fe	1,658	1,413	3,071	29	4	6,216.30	4,802.29	10,726.79
Sierra	540	491	1,031	15	5½	2,792.76	4,482.03	4,393.28
Socorro	1,786	1,428	3,214	44	3½	4,796.47	4,816.60	7,623.32
Taos	1,531	1,365	2,896	27	3½	2,784.50	3,007.54	2,293.40
Valencia	1,838	1,256	3,094	28	4½	2,828.01	.....	4,705.55
Total	23,708	20,291	43,999	508	4½	85,106.84	54,260.04	108,322.04

*Eddy County—No report.

County.	Receipts.	Expenditures.				
	Total.	Teachers' wages.	Rent, fuel, etc.	School houses and grounds.	On hand.	Total.
Bernalillo	$50,816.03	$23,757.85	$14,619.24	$749.00	$11,689.94	$50,816.03
Chaves	6,711.20	2,402.00	1,360.50	2,080.32	868.38	6,711.20
Colfax	.....	.....	.....	.....	.....	.....
Dona Ana	17,818.93	6,569.33	976.65	5,865.39	4.407.56	17,818.93
Grant	49,389.26	18,872.00	1,793.86	14,441.38	14,282.02	49,389.26
Lincoln	1,632.14	.....	.....	.....	1,632.14	1,632.14
Mora	2,948.14	1,316.00	.....	.....	1,632.14	2,948.14
Rio Arriba	11,752.02	5,891.54	3,463.14	3.00	2,394.34	11,752.02
San Juan	3,846.37	2,320.54	150.56	355.04	1,020.23	3,846.37
San Miguel	36,475.99	17,476.57	5,064.59	8,380.95	5,553.88	36,475.99
Santa Fe	21,775.38	7,003.20	4,600.42	1,525.86	7,645.90	21,775.38
Sierra	11,668.07	5,978.00	1,485.05	1,577.49	2,627.53	11,668.07
Socorro	17,236.39	8,332.45	2,591.22	972.72	5,340.00	17,236.39
Taos	8,085.44	3,013.09	908.37	1,010.00	3,153.98	8,085.44
Valencia	7,533.56	4,462.50	730.55	.....	2,340.51	7,533.56
Total	247,688.92	108,395.07	37,744.15	36,961.15	64,587.55	247,688.92

PRIVATE SCHOOLS.

The splendid progress and achievements of the public school system is ably supplemented by the efforts of private and religious institutions. The statistics of these schools are as follows:

INSTITUTIONS UNDER THE SUPERVISION AND CONTROL OF THE CATHOLIC CHURCH.

Under Sisters of Charity.—Albuquerque, in old town public school, 150 pupils, in new town, St. Vincent's Academy, 120 girls; parochial school, 150 pupils; San Miguel select school, 40 pupils; public school, 175 pupils; Santa Fe Orphan Asylum, 62 patients. The Sisters of Charity also conduct a sanitarium as well as a hospital at Santa Fe, the latter containing at the present time about 40 charity patients. There are about 40 Sisters of Charity teaching in the Territory. They came from Cincinnati to Santa Fe in 1866; to Albuquerque in 1880, and to San Miguel in 1882.

Under Sisters of Mercy.—Mesilla; select and parochial schools for boys and girls, under charge of seven sisters; no return made to me of the number of pupils attending their schools at that place.

At Los Alamos, San Miguel County; parochial school with 75 pupils and a public school of 50 pupils under the charge of 3 sisters.

At Silver City, Grant County; an academy and parochial school for boys and girls under the charge of 6 sisters; no return has been made to me of the number of pupils attending their schools. These sisters also conduct a hospital at Silver City.

At Santa Fe: Academy of Our Lady of Light, established January 1, 1853; number of pupils enrolled in boarding and select day school during the session 1892–'93, 70; parochial school, free, 298.

At Fernandez de Taos, Taos County: St. Joseph's Convent, established in October, 1863; the number of boarders and day scholars, 105.

At Mora, Mora County: Annunciation Convent, established in 1864; the number of select day scholars, 50.

At Las Vegas, San Miguel County: Academy of the Immaculate Conception, established in 1869; the number of boarders and select day scholars, 60; number enrolled in parochial school, 100.

At Las Cruces: Visitation Academy, established in 1869; the number of boarders and day scholars, 155.

At Bernalillo, Bernalillo County; Convent of Our Lady of the Sacred

Heart, established in 1875, an Indian boarding school for girls; the number of Indian pupils, 70.

At Socorro, Socorro County: Convent of Our Lady of Mount Carmel, established in 1875; the number of boarders and select day pupils, girls, 40; free school, girls and boys, 181.

Under Christian Brothers.—The Christian Brothers have conducted St. Michael's College at Santa Fe since 1859. The average yearly attendance has been 150 boys. Some of the pupils come from Colorado, Arizona, Texas, and Old Mexico, but the majority are from our own Territory. There are six departments in the college under the tutorship of as many teachers. Besides these there are three specialists employed in giving lessons in extra branches, such as music, telegraphy, typewriting, stenography, etc. The president of the college is a member of the Territorial board of education. The college is empowered to confer degrees, besides teachers' certificates to recipients of degrees.

This institution is unendowed and does not receive any share of the public funds. It has a mineral cabinet containing many valuable specimens of the minerals found in the Territory, a complete chemical laboratory and assay department, besides a museum containing rare relics of Indian and Mexican civilization and other valuable curiosities. The Cathedral parochial school is under the direction of St. Michael's College and has an attendance of 175 pupils, who are taught by two lay teachers. It is supported by the clergy with money collected from the parishioners. A smilar school exists in the parish of Guadalupe, in this city (Santa Fe), which has an average attendance of 60 pupils, boys and girls, and, like that of the Cathedral, has been supported by the contributions of the people.

Besides these schools in Santa Fe, the Christian Brothers conduct a parochial school in Las Vegas, having an average attendance of 120 boys, under the direction of two brothers; a county school in Bernalillo, with an attendance of 125 pupils and taught by two brothers.

Catholic Indian schools.—Boarding school: St. Catherine's Indian school for boys, located at Santa N. Mex., established in 1886. The average attendance has been during the fiscal year 94 pupils. Day schools: Taos day school, located at Taos, N. Mex.; average attendance, 30 pupils. San Juan day school, located at San Juan, N. Mex.; average attendance, 32 pupils. Jemez day school, located Jemez, N. Mex.; average attendance, 35 pupils. Acoma day school, located at Acoma, N. Mex.; average attendance, 25 pupils. Laguna day school, located at Laguna, N. Mex.; average attendance, 28 pupils.

METHODIST MISSION SCHOOLS.

Peralta, 36 pupils; Socorro, no return as to pupils; Tiptonville, school closed the past year; Wagon Mound, school closed; Revisto El Ranchito, 35 pupils; Martinez, 26 pupils.

Excellent public schools having been established at Tiptonville and Wagon Mound, the mission schools were not continued in those places.

NORMAL INSTITUTES.

Supt. Amado Chaves is also to be congratulated for his successful efforts in securing the passage by the last legislature of an act providing for the holding of five teachers' normal institutes in vacation of each year. The leading objects of these institutes are to better educate

the teachers and those proposing to teach in the branches required to be taught in the common schools; to train them in the best and most approved methods of imparting instruction, and in managing and conducting schools; to acquaint them with the laws of the territory pertaining to education, and to stimulate professional enthusiasm. The length of time for which such institutes shall be held to be not less than eight weeks, and tuition in them shall be free; and they shall be held at times most convenient. The success of these institutes during the past year justifies the amount appropriated for their maintenance.

TERRITORIAL INSTITUTION.

The four territorial institutions established by the legislature of 1889–'90 have made rapid advancement during the past year. The agricultural college is in a flourishing condition. The University at Albuquerque continues its normal course. The building of the School of Mines has been completed and opened for its first session upon the 5th of September, with a very excellent faculty and a fair class of scholars in attendance. The Goss Military Institute, at Roswell, by act of the last legislature was made a territorial institute, the name being changed to the "New Mexico Military Institute," and is now being conducted by Prof. J. E. Edgington, under the auspices of the Territory. Under act of Congress an army officer may be assigned as military instructor at this school, and it is earnestly desired that some competent officer may be detailed for this purpose, as it is intended to make this one of the most prominent educational institutes of the Territory, military instruction being an important feature thereof. Ample buildings have been provided for the present needs of the school, which last year had a class of forty-seven students.

During the year the deaf and dumb asylum at Santa Fe has been constructed with sufficient capacity for present wants, ample provision being made by the last legislature for its support. No material change has been made in the other Territorial institutions during the past year.

The penitentiary at Santa Fe is running satisfactorily under the management of Supt. E. H. Bergman, who makes the following statistical report for the year ending June 30, 1893:

Statistics relating to convicts confined in the New Mexico penitentiary during the year ending June 30, 1893.

A.—TERRITORIAL PRISONERS.

In prison July 1, 1892	121
Received from July 1, 1892, to June 30, 1893	66
Total in prison during the year	187
Discharged during the year	57
In prison on July 1, 1893	130
Discharged:	
By expiration of sentence	51
Died	2
Pardoned	3
Transferred to insane asylum	1
Total	57

A.—TERRITORIAL PRISONERS.—Cont'd.

Crimes or offences of those in confinement:	
Murder	49
Burglary	15
Larceny	40
Rape	2
Assault	15
Mayhem	1
Forgery	1
Swindling	1
Carrying arms	1
Discharging deadly weapons	2
Unlawfully selling cattle	1
Unlawfully branding cattle	2
Total	130

Statistics relating to convicts confined in the New Mexico penitentiary, etc.—Continued.

A.—TERRITORIAL PRISONERS—Cont'd.

Nativity:	
Born in United States	94
Foreign born:	
Mexico	24
Canada	3
Great Britain	3
Germany	1
Italy	1
China	1
Austria	1
Ireland	2
Total	130
Sex:	
Males	130
Females	0
Habits of life:	
Claim to be temperate	125
Admit to be intemperate	5
Total	130
Color:	
White	117
Black	9
Indians	3
Chinese	1
Total	130

A.—TERRITORIAL PRISONERS—Cont'd.

Education:	
Read and write	97
Read only	10
Can not read or write	23
Total	130
Social relations:	
Single	87
Married	43
Total	130
Ages:	
Under 20 years	5
Between 20 and 30 years	57
Between 30 and 40 years	46
Between 40 and 50 years	11
Over 50 years	11
Total	130
Previous imprisonment:	
In prison for the first time	122
Having heretofore served imprisonment	8
Total	130

Counties from which Territorial prisoners have been received during the year and number of same.

A.—TERRITORIAL PRISONERS—Cont'd.

Bernalillo	19
Chaves	3
Colfax	6
Dona Ana	15
Eddy	1
Grant	37
Lincoln	6
Mora	3
Rio Arriba	2
San Miguel	14
San Juan	2
Santa Fe	3
Sierra	6
Socorro	6
Taos	3
Valencia	4
Total	130

B.—UNITED STATES PRISONERS.

In prison July 1, 1892	16
Received from July 1, 1892, to June 30, 1893	31
Total in prison during the year.	47
Discharged during fiscal year	31
Remaining in prison June 30, 1893	16

B.—UNITED STATES PRISONERS—Cont'd.

Discharged:	
By expiration of sentence	29
Pardoned	2
	31
Crimes or offenses:	
Counterfeiting	1
Perjury	1
Adultery	29
	31
Nativity:	
Born in the United States	23
Foreign born	8
	31
Sex:	
Males	25
Females	6
	31
Habits of life:	
Claim to be temperate	28
Admit intemperance	3
	31

Counties from which Territorial prisoners have been received, etc.—Continued.

B.—UNITED STATES PRISONERS—Cont'd.	
Color:	
White	29
Black	2
	31
Education:	
Read and write	21
Read only	5
Can not read or write	5
	31
Social relations:	
Married	29
Single	2
	31
Previous imprisonment:	
In prison for the first time	29
Having heretofore served imprisonment	2
	31

B.—UNITED STATES PRISONERS—Cont'd.	
Ages when admitted:	
Under 20 years of age	3
Between 20 and 30 years of age	15
Between 30 and 40 years of age	8
Between 40 and 50 years of age	3
Over 50 years of age	2
	31
Districts of United States from which prisoners have been received during the year ending June 30, 1893:	
Santa Fe	6
Bernalillo	4
La Vegas	7
Las Cruces	7
Socorro	7
	31

The average cost of feeding both United States and Territorial prisoners at this penitentiary during the fiscal year ending June 30, 1893, is $11\frac{3}{5}$ cents per day per man, and the average cost of clothing is $2\frac{2}{5}$ cents per man per day, and the average cost per day for salaries, officers and employés, etc., is $28\frac{2}{5}$ cents per man, making a total of $42\frac{2}{5}$ cents per day per man.

LEGISLATION.

The last legislature passed a very important law for the well-being of New Mexico. It provides for a county court in every county where the county seat has a population of 2,000 or more persons, and that said court shall have a seal and be a court of record; said court to have exclusive jurisdiction in all civil causes arising in the county, except cases arising in chancery, where the sum involved does not exceed $300, and to have concurrent jurisdiction with all justices of the peace in civil and criminal cases, and that cases now on the docket of the district courts may, upon request of either of the parties, be transferred to the proper county court. Provision is made for jury trials and the preservation of testimony, and that the records and dockets of such courts be kept in the same manner as provided for district courts.

The organic act creating the territory of New Mexico provides for a supreme court, district courts, probate courts, and justices courts. These are the only legal tribunals. The dockets of the district courts have become so crowded that cases seven years old are pending therein. However industrious these courts may be it would be impossible for them to reach current business in less than two years. The approval of this act of the legislature by Congress will greatly relieve these courts of congested business and permit them to devote attention to the more important litigation. I therefore earnestly request, on behalf of the people of the Territory, that you will urge upon Congress the approval of this act, except as hereinafter mentioned. It is necessary for our welfare and important to the public interests. Cases of vast importance, involving large financial interests, are delayed for years,

because petty suits or trials of unimportant misdemeanors crowd the dockets. The saving to the Territory, not only in the quick transaction of business, but in expense, would greatly relieve our over-taxed court funds. This matter is of special importance and I earnestly urge its prompt consideration, not only on the Departments but on Congress.

There is, however, one provision of this act that, in my opinion, is unwise. The act provides that in the first instance the judges should be appointed by the county commissioners, and after that elected. I believe that in the present condition of society in this Territory better and more competent judges could be obtained if they were appointed by the governor, and I therefore advise that the act of confirmation be changed in this respect.

UNION COUNTY.

There is only one other act of the last legislature that requires notice, and that is the one creating Union County out of parts of Colfax, Mora, and San Miguel counties. The act does not go into effect until January 1, 1894. It takes eighty-one townships off the eastern part of Colfax County; forty-five from eastern Mora County, and about forty townships from the northeast corner of San Miguel County. It will occupy the extreme northeastern portion of New Mexico.

W. L. THORNTON,
Governor of New Mexico.

SANTA FE, N. MEX.,
September 21, 1893.

REPORT

OF

THE GOVERNOR OF UTAH.

SALT LAKE CITY, *October 2, 1893.*

SIR: In pursuance of your request of July 18, 1893, I have the honor of submitting the following report of existing conditions in the Territory of Utah during the fiscal year ending June 30, 1893:

POPULATION.

County.	Census report, 1890.	Estimated population, 1893.	County.	Census report, 1890.	Estimated population, 1893.
Beaver	3,340	3,550	Salt Lake	58,457	67,000
Boxelder	7,642	7,910	San Juan	365	475
Cache	15,599	17,100	Sanpete	13,146	15,100
Davis	6,469	6,660	Sevier	6,199	7,460
Emery	4,866	7,000	Summit	7,733	8,500
Garfield	2,457	3,520	Tooele	3,700	4,100
Grand	541	750	Uintah	2,292	3,650
Iron	2,683	2,775	Utah	23,416	28,500
Juab	5,582	6,200	Wasatch	4,627	4,850
Kane	1,685	1,875	Washington	4,009	4,400
Millard	4,033	4,050	Wayne	642	1,000
Morgan	1,780	1,880	Weber	23,005	28,500
Piute	2,842	2,350			
Rich	1,527	1,650	Total	207,905	240,805

On account of the recent financial stringency and the violent decline in the price of silver, the population of the mining districts has decreased very materially the past six months, while in all other portions of the Territory there has been a steady growth. The above estimate shows an increase of 32,900 since the census was taken.

UNITED STATES LAND OFFICE.

Statement of the business of the United States land office at Salt Lake City, Utah, for the fiscal year ending June 30, 1893.

Kind of entry.	Number.	Acreage.	Amount.
Cash entries (excluding area in commuted homestead entries and timber-culture entries)	180	8,883.69	$25,025.44
Mineral entries	107	2,747.96	13,122.50
Mineral applications	107	3,235.31	1,070.00
Desert applications	253	42,024.98	10,506.31
Desert final entries	89	18,002.12	20,222.31
Homestead entries	687	96,372.02	10,536.35
Homestead final entries	179	25,826.68	1,166.29
Timber-culture final entries	5	666.20	24.00
Adverse mining claims	21	.....	210.00
Preëmption filings	2	360.00	6.00
Coal filings	70	10,720.00	210.00
Coal entries	4	560.00	11,200.00
Railroad selections	5	139,389.94	802.00
Testimony fees	.....	....	616.28
Total	1,719	348,788.90	94,717.48

SETTLEMENT OF PUBLIC LANDS.

Statement showing the disposition and settlement of public lands in Utah Territory and the total business of the land office at Salt Lake City from the time of its opening in March, 1869, to the end of the fiscal year ending June 30, 1893.

	Number.	Acreage.	Amount.
Cash entries	4,188	378,727.21	$621,841.61
Mineral entries	1,947	22,811.95	109,589.50
Mineral applications	2,244	14,223.08	22,440.00
Desert applications	3,818	758,412.28	197,690.52
Desert final entries	945	176,711.47	181,651.55
Homestead entries	10,494	1,330,338.26	160,818.00
Homestead final entries	4,947	699,376.38	32,482.14
Timber-culture entries	1,577	179,303.49	17,902.00
Timber-culture final entries	23	2,566.20	96.00
Adverse mining claims	947	.....	9,236.00
Preëmption filings	11,995	1,445,087.88	35,985.00
Coal filings	1,214	154,840.00	3,642.00
Coal cash entries	109	190,493.80	24,540.20
Union Pacific and Central Pacific Railroad selections	5	778,458.24	8,841.64
Land warrants	.....	23,957.00	615.00
Agricultural college scrip	.....	84,912.00	2,232.00
Valentine scrip	.....	280.12	14.00
Chippewa scrip	.....	479.82	10.00
Supreme court scrip	.....	4,530.02	.....
Sioux half-breed scrip	.....	360.00	6.00
Timber sold	.....	.....	127.08
Timber depredations	.....	.....	15,422.31
Testimony fees	.....	.....	17,759.20
Total	.....	6,245,869.20	1,469,941.75

REAL AND PERSONAL PROPERTY AND IMPROVEMENTS, 1893.

Statement showing the assessed valuation of real and personal property and improvements in the several counties for 1893.

Counties.	Real property.	Improvements.	Personal property	Total 1893.
Beaver	$315,362	$242,285	$515,431	$1,073,078
Boxelder	1,248.218	415,445	55,770	1,719,433
Cache	3,771,740	1,376,030	199,783	5,347,553
Davis	2,083,740	589,775	228,025	2,901,540
Emery	405,339	170,240	1,635,774	2,211,353
Garfield	29,349	15,075	223,779	268,203
Grand	56,997	20,905	258,091	335,993
Iron	273,390	159,694	406,322	839,406
Juab	564,775	1,108,867	754,186	2,427,828
Kane	89,382	119,256	414,617	623,255
Millard	238,949	1,041,741	398,257	1,678,947
Morgan	317,518	129,825	142,889	590,232
Piute	91,117	40,730	157,195	289,042
Rich	532,266	81,445	260,039	873,750
Salt Lake	31,456,678	9,232,105	8,400,328	49,089,111
San Juan	2,400	8,770	370,221	381,391
Sanpete	1,815,455	859,630	462,816	3,137,901
Sevier	437,601	294,710	544,884	1,277,195
Summit	1,760,880	861,112	1,340,744	3,962,736
Tooele	545,975	277,525	408,900	1,232,400
Utah	4,293,025	2,000,896	1,548,005	7,841,926
Uintah	181,143	99,462	302,385	582,990
Wasatch	548,260	279,618	286,715	1,114,593
Washington	277,639	265,080	441,004	983,723
Weber	10,628,143	3,629,777	3,523,311	17,781,231
Wayne	54,411	44,850	196,040	295,301
Total	62,019,752	23,364,848	23,475,511	108,860,111

Statement showing the assessed value of the property of the incorporated cities and towns of Utah Territory, and the indebtedness of the same, for the years 1892 and 1893.

Incorporated cities and towns.	Assessed valuation of property.		Amount of indebtedness.	
	1892.	1893.	1892.	1893.
Cities under special charter.				
American Fork	$325,000.00	$354,730.00	$2,500.00	$1,130.00
Alpine City	40,000.00	*40,000.00	300.00	*300..0
Beaver	312,412.00	*312,412.00	911.00	*911.00
Brigham City	413,410.00	*413,410.00	24,000.00	*24,000000
Cedar City	139,868.00	*139,868.00	450.00	450.00
Coalville	261,287.00	261,287.00	None.	None.
Corinne	182,235.00	*162,235.00	6,000.00	6,900.00
Ephraim	252,190.00	*308,495.00	2,000.00	1,000.00
Fairview	143,200.00	138,350.00	None.	None.
Fillmore	100,000.00	92,494.00	200.00	None.
Grantsville	150,000.00	265,000.00	None.	500.00
Hyrum	223,556.00	223,556.00	Do.	None.
Kaysville	1,000,000.00	No assessment.	5,000.00	5,000.00
Lehigh City	393,800.00	388,500.00	None.	None.
Logan	1,930,842.00	1,930,842.00	45,306.00	*45,306.00
Manti	362,041.50	468,964.00	12,600.00	12,000.00
Mendon	69,500.00	80,534.00	500.00	500.00
Moroni	95,373.00	143,844.00	None.	None.
Mount Pleasant	244,292.00	449,000.00	Do.	Do.
Morgan	210,000.00	229,800.00	Do.	Do.
Ogden	13,500,000.00	13,500,000.00	368,000.00	*368,000.00
Park City	1,300,000.00	1,327,959.00	None.	None.
Parowan	113,950.00	138,740.00	146.60	500.00
Payson	323,615.00	600,000.00	500.00	470.00
Pleasant Grove	244,030.00	234,775.00	None.	None.
Provo	8,618,646.00	*8,618,646.00	124,000.00	*124.000.00
Richfield	193,174.00	211,000.00	None.	1,200.00
Richmond	156,300.00	305,358.00	200.00	50.00
Salt Lake City	52,598,395.00	*52,598,395.00	1,500,000.00	*1,500,000.00
Smithfield	160,000.00	240,000.00	None.	None.
Spanish Fork	296,230.00	*296,230.00	Do.	Do.
Spring City	*83.000.00	147,249.00	Do.	Do.
Springville	430,000.00	563,092.00	Do.	2,500.00
St. George	272,692.00	284,952.00	2,970.23	3,110.00
Tooele	160,804.00	150,000.00	None.	1,000.00
Washington	48,700.28	*48,700.00	Do.	None.
Wellsville	113,690.00	147,000.00	Do.	Do.
Willard	102,156.75	141,971.00	Do.	Do.
Cities and towns under the general law.				
Bear River	30,000.00	36,406.00	None.	None.
Bountiful	(*)	(*)	(*)	(*)
Fountain Green	70,695.00	100,000.00	None.	None.
Heber	(*)	(*)	(*)	(*)
Kanab	53,347.00	67,960.00	None.	None.
Monroe	200,000.00	109,186.00	Do.	500.00
Nephi	779,854.00	*779,854.00	20,000.00	*20,000.00
Salem	144,710.00	144,710.00	None.	None.
Salina	111,272.00	134,000.00	Do.	Do.
Santaquin	81,968.00	75,000.00	Do.	Do.
Elsinore	106,450.00	63,000.00	Do.	98.00
Huntington	57,396.00	65,800.00	94.75	225.00
Total	87,200,081.53	94,533,352.00	2,115,678.58	2,098,030.00

*No returns made for 1893; the figures given are for 1892.

While the assessed valuations have increased $7,333,270.47 the aggregate indebtedness has decreased $17,648.58.

Statement showing the number of residences and business houses erected in incorporated cities and towns, and the cost of the same, during the fiscal year.

Incorporated cities and towns.	Dwellings.	Value.	Business houses.	Value.
Cities under special charter.				
American Fork	16	$16,000	3	$13,000
Alpine	(*)	(*)	.....	.....
Beaver	(*)	(*)	.....	.....
Brigham City	(*)	(*)	.....	.....
Cedar City	(*)	(*)	.....	.....
Coalville	(*)	(*)	.....	.....
Corinne	(*)	(*)	.....	.....
Ephraim	13	21,200	.....	.....
Fairview	4	5,500	8	800
Fillmore	4	2,000	(*)	(*)
Grantsville	3	2,000	1	500
Hyrum	(*)	(*)	(*)	(*)
Kaysville	3	3,000	.....	.....
Lehi	18	13,000	(*)	(*)
Logan	(*)	(*)	(*)	(*)
Mauti	8	5,400	2	500
Menden	(*)	(*)	(*)	(*)
Moroni	12	5,650	2	2,000
Mount Pleasant	12	15,000	7	20,000
Morgan	3	13,000	2	25,200
Ogden	(*)	(*)	(*)	(*)
Park City	(*)	(*)	(*)	(*)
Parowan	.....	10,000	.....	85,000
Payson	1	400	(*)	(*)
Pleasant Grove	15	15,000	(*)	(*)
Provo	(*)	.....	(*)	(*)
Richfield	6	7,000	1	1,200
Richmond	1	11,000	1	500
Salt Lake City	(*)	(*)	(*)	(*)
Smithfield	(*)	(*)	(*)	(*)
Spanish Fork	(*)	(*)	(*)	(*)
Spring City	9	3,000	3	3,500
Springville	6	6,500	1	2,000
St. George	3	3,000	1	1,000
Tooele	1	1,200	(*)	(*)
Wellsville	6	3,000	(*)	(*)
Willard	3	4,500	(*)	(*)
Washington	(*)	(*)	(*)	(*)
Cities and towns under general law.				
Bear River	1	6,000	2	5,500
Monroe	7	18,000	1	800
Fountain Green	(*)	(*)	1	1,000
Heber	(*)	(*)	.....	.....
Kanab	5	12,500	1	2,500
Nephi	(*)	(*)	(*)	(*)
Salem	.....	.....	.....	.....
Salina	15	12,000	4	6,000
Santaquine	1	500	(*)	(*)
Elsimore	3	1,500	1	850
Huntington	3	2,000	(*)	(*)
Total	182	218,850	42	179,500

* No returns made.

NOTE.—While returns have not been received from Salt Lake City, Ogden, Provo, and Logan (the four principal cities of the Territory), it is safe to say that hundreds of beautiful and permanent public and private buildings have been erected in these cities, and that hundreds of thousands of dollars have been expended in their construction.

REVENUE, TERRITORIAL AND DISTRICT SCHOOL TAX.

Statement of the revenue from the tax levy for the years 1891 and 1892 for school purposes.

Counties.	Territorial and school tax.	
	1891.	1892.
Boxelder	$19,769.95	20,188.85
Beaver	5,783.53	5,877.95
Cache	30,863.60	31,919.18
Davis	17,482.47	17,943.95
Emery	7,739.62	9,253.41
Garfield	3,054.68	2,813.13
Grand	4,194.22	4,529.40
Iron	3,481.55	3,832.08
Juab	11,415.07	11,596.72
Kane	2,316.52	4,916.94
Morgan	4,606.67	3,878.77
Millard	5,914.89	6,219.04
Piute	2,444.30	1,328.13
Rich	3,829.15	3,977.12
Salt Lake	293,689.28	256,681.86
Summit	19,769.57	20,352.08
Sanpete	17,298.15	22,171.35
Sevier	5,773.48	6,720.28
San Juan	1,673.36	1,992.72
Tooele	7,751.67	8,653.35
Utah	48,175.41	50,151.23
Uintah	3,071.81	2,843.12
Weber	88,412.99	87,104.52
Wasatch	5,949.12	5,742.15
Washington	4,224.19	4,654.41
Wayne	----------	1,428.75
Total	618,685.19	596,790.49

Statement showing the revenue for each year from 1854, and the total assessed value of property from 1865.

Year.	Territorial and school tax.	Value of property assessed.	Year.	Territorial and school tax.	Value of property assessed.
1854	$6,386.31	(*)	1874	$57,021.45	(*)
1855	17,348.89	$3,469,770.00	1875	58,222.95	$23,289,180.0
1856	16,999.38	2,937,977.00	1876	50,020.11	23,608,064.00
1857	12,892.43	2,578,486.00	1877	56,384.15	22,553,660.00
1858	9,032.32	(*)	1878	146,903.77	24,483,957.00
1859	9,957.17	3,982,869.00	1879	149,910.43	24,985,072.00
1860	23,369.50	4,673,900.00	1880	151,335.24	25,222,540.00
1861	25,160.92	5,032,184.00	1881	153,495.40	25,579,234.00
1862	47,795.18	4,779,518.00	1882	174,483.93	29,080,656.00
1863	50,482.00	548,200.00	1883	185,006.55	30,834,425.00
1864	33,480.02	6,696,004.00	1884	203,549.64	33,924,942.00
1865	47,269.65	9,453,930.00	1885	208,931.72	34,851,957.00
1866	52,338.98	10,467,796.00	1886	214,105.93	35,684,322.00
1867	53,239.13	10,647,826.00	1887	227,361.48	37,893,580.00
1868	52,669.36	10,533,872.00	1888	282,636.61	46,868,247.00
1869	59,968.03	11,393,606.00	1889	305,016.14	49,883,690.00
1870	33,639.09	13,455,636.00	1890	543,061.08	108,612,216.00
1871	38,163.56	15,265,424.00	1891	618,685.19	123,737,042.00
1872	43,976.40	17,590,560.00	1892	596,790.49	119,358,098.00
1873	53,870.87	21,548,348.00			

*No data.

LIVE STOCK.

Statement showing the number of horses and mules, cattle and sheep, assessed in Utah Territory for the years 1891, 1892, and 1893, and the assessed value for 1893.

HORSES AND MULES.

Counties.	1891.	1892.	1893.	Assessed value.
Beaver	2,513	2,634	2,690	$71,308
Boxelder	5,724	(*)	5,650	105,490
Cache	7,869	7,980	8,688	301,560
Davis	3,145	3,100	2,890	96,770
Emery	2,616	2,962	3,491	106,750
Garfield	1,208	3,438	3,438	(*)
Grand	1,504	1,488	1,563	39,875
Iron	2,202	2,082	2,248	67,697
Juab	2,093	2,031	2,031	71,285
Kane	3,160	2,791	2,808	70,017
Millard	3,662	2,792	2,792	72,980
Morgan	1,329	1,383	1,312	33,345
Piute	2,053	1,310	1,432	34,420
Rich	2,174	2,380	2,380	83,264
Salt Lake	8,438	7,060	7,215	315,495
San Juan	1,035	1,044	1,088	18,445
Sanpete	4,995	5,832	5,485	164,230
Sevier	2,790	4,126	4,551	109,954
Summit	2,911	2,982	3,161	129,364
Tooele	3,704	5,016	4,249	84,020
Utah	7,657	8,403	8,403	329,205
Uintah	3,542	3,836	3,290	74,863
Wasatch	2,360	2,387	2,387	86,085
Washington	2,397	2,635	2,657	93,253
Wayne†	.....	3,119	1,551	46,100
Weber	4,498	4,646	4,646	213,040
Total	85,579	87,457	92,096	2,818,895

*No report. †New county; no report before 1892.

CATTLE.

Counties.	1891.	1892.	1893.	Assessed value.
Beaver	6,740	9,287	10,532	$111,474
Boxelder	13,297	(*)	12,076	155,120
Cache	12,913	11,937	11,876	140,005
Davis	5,530	5,254	4,442	59,735
Emery	5,530	15,001	16,115	171,420
Garfield	6,256	15,279	15,279	(*)
Grand	19,593	17,513	15,062	164,245
Iron	8,968	8,315	8,444	91,050
Juab	3,117	4,734	4,734	46,390
Kane	12,949	13,655	14,328	146,001
Millard	8,605	5,988	5,988	60,085
Morgan	3,333	3,635	3,862	43,060
Piute	4,582	2,063	2,770	27,135
Rich	8,503	8,489	8,489	94,006
Salt Lake	8,126	6,567	6,978	133,627
San Juan	26,362	29,722	30,571	306,105
San Pete	10,161	10,958	9,604	102,345
Sevier	14,719	10,067	10,204	99,587
Summit	8,966	8,364	8,212	126,708
Tooele	5,061	6,071	5,177	69,776
Utah	12,059	13,883	13,883	177,150
Uintah	9,469	8,791	7,140	66,805
Wasatch	10,211	6,917	6,917	76,500
Washington	10,209	17,329	14,988	170,206
Wayne	(*)	8,582	5,580	55,800
Weber	6,976	7,274	7,274	103,720
Total	242,235	255,675	259,925	2,678,055

* No report.

Statement showing the number of horses and mules, cattle and sheep, assessed in Utah Territory, etc.—Continued.

SHEEP.

Counties.	1891.	1892.	1893.	Assessed value.
Beaver	97,826	35,567	72,290	$144,493
Boxelder	97,593	(*)	74,515	152,155
Cache	1,758	8,521	19,659	34,208
Davis	10,783	4,703	3,500	6,905
Emery	21,410	75,695	73,975	147,880
Garfield	26,402	26,775	26,775	.....
Grand	14,000	9	19,607	39,214
Iron	48,967	54,080	79,507	157,321
Juab	143,611	57,257	57,257	114,451
Kane	96,025	49,740	68,230	136,460
Millard	190,000	48,075	48,075	96,150
Morgan	4,568	4,407	6,282	9,907
Piute	36,735	11,944	18,179	36,355
Rich	6,640	(*)	(*)	(*)
Salt Lake	291,536	5,788	8,254	9,884
San Juan	9,850	12,200	11,200	22,400
Sanpete	105,136	216,272	252,313	504,626
Sevier	22,989	56,258	61,683	123,666
Summit	4,923	6,385	10,373	20,192
Tooele	162,469	187,167	273,810	547,620
Utah	101,605	74,306	74,306	148,280
Uintah	41,165	37,425	32,313	50,459
Wasatch	10,731	15,000	15,000	30,000
Washington	14,680	15,212	22,229	44,476
Wayne†	.....	21,495	24,705	49,410
Weber	13,990	20,799	20,799	41,616
Total	1,485,392	1,045,080	1,374,836	2,648,128

* No report. † No report before 1892; new county.

BANK STATEMENT.

Statements have been received from the following-named banks showing state of their business June 30, 1893, as follows:

Name.	Capital.		Deposits.	
	1892.	1893.	1892.	1893.
Brigham City: Bank of Brigham	$35,000.00	$30,000	$61,324.15	$40,000.00
Bank of Spanish Fork	19,425.00	25,000	10,550.79	3,861.57
Corinne: J. W. Guthrie	50,000.00	(*)	65,000.00	(*)
Davis County Bank	11,706.50	25,000	5,243.26	8,750.00
Kaysville: Barnes Banking Co	25,000.00	34,000	43,045.76	19,097.08
Lehi: Commercial and Savings Bank	49,000.00	50,000	46,832.62	36,605.00
Logan: Thatcher Brothers Banking Co	150,000.00	170,000	193,658.00	142,914.00
Manti: Manti City Savings Bank	25,000.00	50,000	112,328.17	99,334.90
Mount Pleasant: Commercial and Savings Bank	(*)	50,000	(*)	44,324.25
Nephi:				
Savings Bank and Trust Co	50,000.00	50,000	43,625.50	36,116.77
First National	50,000.00	50,000	113,330.74	41,227.63
Ogden:				
State Bank	125,000.00	137,500	145,000.00	176,909.10
Commercial National Bank	150,000.00	150,000	233,302.00	200,000.00
First National Bank	150,000.00	150,000	396,467.52	284,660.97
Utah National Bank	100,000.00	200,000	300,000.00	200,000.00
Citizens' Bank	150,000.00	150,000	232,873.50	116,140.42
Ogden Savings Bank	75,000.00	75,000	217,229.45	272,532.46
Utah Loan and Trust Co.'s Bank	215,000.00	200,000	108,437.09	137,137.91
Park City: First National Bank	50,000.00	(*)	(*)	(*)
Payson Exchange and Savings Bank	30,200.00	31,800	59,781.62	20,952.41
Provo:				
Commercial and Savings Bank	75,000.00	75,000	75,015.00	59,858.00
First National Bank	50,000.00	60,000	43,563.00	26,814.36
National Bank of Commerce	50,000.00	50,000	27,755.58	15,840.39
Utah County Savings Bank	50,000.00	50,000	50,000.00	51,554.97
Richfield: James M. Peterson	20,000.00	(*)	26,286.00	(*)
Springville Banking Co	50,000.00	50,000	29,583.09	23,071.48
Salt Lake City:				
American National Bank	250,000.00	300,000	404,423.41	379,047.67
Commercial National Bank	300,000.00	350,000	459,767.81	388,539.62

* No report.

BANK STATEMENT—continued.

Name.	Capital.		Deposits.	
	1892.	1893.	1892.	1893.
Salt Lake City—Continued:				
Deseret National Bank	$500,000.00	$500,000	$1,153,200.64	$930,000.00
National Bank of the Republic	500,000.00	522,000	332,785.00	259,000.00
Union National Bank	445,000.00	441,000	847,408.50	(*)
Bank of Commerce	100,000.00	100,000	260,209.40	149,000.00
State Bank of Utah	500,000.00	500,000	422,948.30	342,149.66
Deseret Savings Bank	100,000.00	158,343	557,886.50	627,555.81
Zion's Savings Bank and Trust Co	400,000.00	400,000	1,033,496.24	1,145,370.57
Salt Lake Valley Loan and Trust Co	200,000.00	200,000	1,330,980.05	(†)
Utah Title Insurance and Trust Company Savings Bank	150,000.00	150,000	161,220.65	(*)
Wells, Fargo & Co. (branch)	200,000.00	(*)	.....	1,173,405.42
McCornick & Co	200,000.00	200,000	1,200,000.00	600,000.00
Utah Commercial and Savings Bank	200,000.00	200,000	333,500.44	234,000.00
T. R. Jones & Co	.....	(*)	330,013.11	(*)
Utah National Bank	200,000.00	200,000	290,445.24	225,515.14
Total	5,910,331.50	5,693,643	11,758,728.13	9,237,726.00

*No report. †Receive no deposits.

THE RAILROAD SYSTEM.

The railroad system of Utah.

Road.	From—	To—	Miles of line.	
			Gauge 4 feet 8½ inches.	Gauge 3 feet.
Rio Grande Western—				
Main line in Utah	Ogden	Colorado line	294.1	.....
Bingham branch	Bingham Junction	Bingham	14.15	.....
Alta branch	....do	Wasatch	10.06	.....
San Pete branch	Thistle Junction	Manti	60.8	.....
Sevier Railway (leased)	Manti	Salina	25.7	.....
Tintic Railway (leased)	Springfield Junction.	Silver City	43.6	.....
Coal mine branch	Pleasant Valley	Coal mine	17.5	.....
Lake Park spur	.....	.....	1.5	.....
Utah Central coal mine spur	.....	.....	1.8	.....
Diamond spur	.....	.....	1.4	.....
Bingham tramway	.....	.....	.....	3.5
Alta tramway	.....	.....	.....	7.8
Total	.....	.....	470.61	11.3
Central Pacific in Utah, Ogden main line.	Ogden	Nevada line	157	.....
Utah Central—				
Main line	Salt Lake City	Fort Douglas	.....	6
Do	....do	Park City	.....	31
Do	....do	Mill Creek	.....	3
Total	.....	.....	.....	40
Union Pacific—				
Main line in Utah	Ogden	Wyoming	73	.....
Do	....do	Frisco	280	.....
Salt Lake and Western	Lehi City	Eureka	62	.....
Echo and Park City	Echo	Park City	31	.....
Utah and Northern	Ogden	Idaho line	96.3	.....
Utah and Nevada	Salt Lake City	Terminus	.....	37
San Pete Valley	Nephi	Manti	.....	52
Total	.....	.....	542.3	89
Great Salt Lake and Hot Springs	Salt Lake City	Farmington	18	.....
Grand total	.....	.....	1,187.91	140.3

Street-railroad system.

	Electric.	Steam motor.
	Miles.	*Miles.*
Salt Lake	58	.....
Ogden	10	.....
Provo	.....	6
Total	68	6

RAILROAD EXTENSIONS.

During the past year 36 miles of new road have been constructed. This, added to our previous mileage, makes an aggregate of 1,327.94 miles now in operation within the Territory.

MINING INDUSTRY.

Statement of the mineral product of Utah for the year 1892.

[Furnished by J. E. Dooly, esq., cashier of Wells, Fargo & Co., Salt Lake City.]

	Copper.	Lead unrefined.	Silver in bars.	Silver in base bullion and ores.	Gold in bars.	Gold in bullion and ores.
	Pounds.	*Pounds.*	*Ounces.*	*Ounces.*	*Ounces.*	*Ounces.*
Germania Lead Works	357,000	12,968,400	.....	912,000	.....	6,172
Hanauer Smelter	405,000	12,930,000	.....	903,500	.....	5,575
Mingo Smelting Co	333,116	16,166,854	.....	1,292,172	.....	11,651
Daly Mining Co	.....	2,159,000	740,000	393,800	720	524
Ontario Silver Mining Co	.....	3,327,756	820,195	893,903	361	914
Silver Reef District	727,500	.....	25,740	.....	.....	.....
Other mines and placers	.....	.....	4,475	.....	70	.....
Net product bars and base bullion	1,822,616	47,552,010	1,590,410	4,395,375	1,151	24,836
Contents ores shipped	.....	43,565,097	.....	2,983,871	.....	12,195
Totals	1,822,616	91,117,107	1,590,410	7,379,246	1,151	37,031

RECAPITULATION.

1,822,616 pounds copper, at 5 cents per pound	$91,130.80
91,117,107 pounds unrefined lead, at $55 per ton	2,505,720.42
8,969,656 ounces fine silver, at $0.86⅞ per ounce	7,792,388.65
38,182 ounces fine gold, at $20 per ounce	763,640.00
Total export value	11,152,879.87

Computing the gold and silver at their mint valuation and other metals at their value at the seaboard it would increase the value of the product to $16,276,818.03.

Comparative statement showing the quantity of silver and gold contained in base bullion and ores produced in Utah.

Year.	Total silver produced.	Total gold produced.	Silver in ores and base bullion.	Gold in ores and base bullion.	Per cent of total silver product.	Per cent of total gold product.
	Ounces.	*Ounces.*	*Ounces.*	*Ounces.*		
1877	4,359,703	17,325	2,102,098	11,035	48.2	63.6
1878	4,357,328	15,040	2,108,359	10,165	48.3	67.5
1879	3,835,047	15,932	1,797,589	5,693	46.8	35.7
1880	3,783,566	8,020	1,403,819	2,878	37.1	35.8
1881	5,400,191	7,958	2,643,899	2,622	48.9	32.9
1882	5,435,444	9,039	2,581,789	5,016	47.3	55.5
1883	4,531,763	6,991	2,351,190	5,597	51.8	80
1884	5,669,488	5,530	3,253,984	3,806	57.4	68.8
1885	5,972,689	8,903	3,189,576	7,289	53.4	81.8
1886	5,918,842	10,577	2,838,263	8,369	47.9	79.1
1887	6,161,737	11,387	5,049,273	10,714	65.7	94
1888	6,178,855	13,886	3,982,217	12,854	64.4	92.6
1889	7,147,651	24,975	5,270,256	24,236	73.7	97
1890	8,165,586	33,851	6,082,825	29,555	74.4	87.3
1891	8,915,223	36,160	6,616,198	31,240	74.2	86.4
1892	8,969,656	38,182	7,379,246	37,031	82.2	99.8

Comparative statement of the value of lead bullion, including gold and silver necessarily produced in its manufacture west of the Missouri River.

[Compiled from the annual reports issued by John J. Valentine, president Wells, Farge & Co., San Francisco.]

Year.	Total value of precious metals, including lead.	Total value of lead bullion, including gold and silver contents.	Per cent of entire product.
1878	$81,154,622	$14,740,581	18.1
1879	75,349,501	19,234,394	25.5
1880	80,167,936	28,114,594	35
1881	84,504,417	30,253,430	35.8
1882	92,411,835	35,798,750	38.7
1883	90,313,612	34,810,022	38.5
1884	84,975,954	31,191,250	36.7
1885	90,181,260	35,781,711	39.6
1886	103,011,761	44,635,655	43.3
1887	104,645,959	41,595,853	39.7
1888	114,341,592	38,004,826	33.2
1889	129,677,836	42,878,063	33.5
1890	127,166,410	46,852,367	36.8
1891	118,237,441	39,106,577	33

One of our great and heretofore most prosperous industries has been metal mining, producing annually about $16,000,000. Owing to the low price of silver and lead some of our great mines that have paid regular dividends for years have ceased their payment. The working force has been reduced in some, while others have been closed entirely. A great many honest, thrifty, and industrious miners have been thrown out of employment. The depression in this great industry has injuriously affected all the various activities and interests of the Territory. Our people almost universally favor the maintenance of the parity of value between silver and gold and the coinage of both metals as money without discrimination against either.

COMMERCIAL.

The vexed and unsettled condition of the silver question has had a very unfavorable effect upon the commercial affairs of the Rocky Mountain States and Territorries. Many of the mines have shut down, the miners thrown out of employment, and business to a considerable extent crippled thereby. It is to be hoped that an early and favorable solution of the problem will result in a speedy resumption of our mills and mines and an increased activity in all branches of commerce.

LABOR SUPPLY.

We are well supplied with all classes of workmen, from the ordinary laborer to the most skillful mechanic or artisan.

Statement showing rate of wages for certain kinds of labor and hours employed.

	Month.	Week.	Day.	Hours employed.
Bricklayers			$4.50 to $5.50	8 and 9
Brickmakers			2.50 to 3.00	9
Blacksmiths			3.00 to 4.00	9
Boilermakers			3.50 to 4.00	9
Brewers	$70			9
Bakers		$21		9
Boot and shoe makers			2.75 to 3.00	8
Clerks	60 to 100			10
Carpenters			3.00 to 3.50	9
Cooks and waiters	40 to 75			10
Electricians			3.50 to 4.50	8
Harness-makers			2.25 to 3.00	9
Hod-carriers			2.25 to 2.75	8 and 9
Iron molders			3.00 to 3.50	9
Lathers			3.00 to 3.50	9
Laborers			2.00 to 2.50	8-9
Linemen			3.00 to 3.50	8
Machinists			3.50 to 4.00	9
Printers		21 to 25		9
Pressmen		18 to 25		9
Plumbers			4.50 to 5.00	9
Painters			3.00 to 3.50	9
Plasterers			4.00 to 4.50	8
Stonecutters			4.00 to 4.50	8
Stone masons			4.50 to 5.50	8
Steam and gas fitters			4.50 to 5.00	8
Street car employés			2.00	8
Tinners and cornice-makers			3.50 to 4.00	8
Barbers		15 to 20		10
Cigar-makers		20 to 25		8

PUBLIC BUILDINGS.

The population, business, and wealth of the Territory has increased so rapidly during the past few years that great inconvenience is experienced from the want of public buildings for Federal offices in Salt Lake City and Ogden. The offices are scattered, in some instances very poor accommodations are provided for the transaction of the public business, and large sums are appropriated annually for the payment of rents. To this must be added the insecurity of the public records and papers and the liability of their destruction by fire at any time. I urgently recommend the passage of bills authorizing the erection of suitable buildings for the transaction of public business at the earliest moment consistent.

OLD CAPITOL BUILDING.

The old capitol building at Fillmore is of but little value and should be granted to the Territory to be disposed of for school or other public purposes.

THE INDUSTRIAL HOME.

This public institution has never had a successful career and seems to have been an unnecessary and almost unappreciated public burden. The building was vacated by the inmates and management during the month of June, 1893, and has been turned over to the Utah Commission. The commissioners have taken possession of the premises and are using them for their offices, but the buildings are so constructed that they are suitable only for school, hospital or other similar purposes. Beside they are located so far from the center of business that

they are not sufficiently convenient for the public. I therefore recommend that the entire property be granted to the Territory, to be devoted to some public use to be determined by the Territorial legislature.

THE UNIVERSITY OF UTAH.

The university, situated at Salt Lake City, has steadily increased in its popularity and usefulness. The legislature has been liberal in its appropriations to foster the institution, and the people are availing themselves of the increased educational advantages placed within their reach. The standard of the university has been materially advanced the past five years, and while the resulting consequences would necessarily be a falling off in the attendance there were enrolled on September 1, 1893, 368 pupils. Satisfactory educational progress is being made, and in the near future we expect the university to be one of the leading institutions of learning in the far West. In this connection I desire to call attention to the fact that early in the settlement of the Territory the university site was fixed in the city of Salt Lake. A beautiful square of 10 acres, in a quiet part of the city, was set apart for the purpose and the buildings erected thereon. Within the past few years, however, the population and business have increased and extended so rapidly that the university is now so near the lines of business and confusion that its removal to a quieter location where a larger tract of land can be secured is much to be desired. I therefore recommend the early passage of the act now pending in Congress granting to the Territory a portion of the Fort Douglass military reservation for university purposes.

AGRICULTURAL COLLEGE.

This institution is located at Logan, about 90 miles north of Salt Lake City. It was created by act of the legislative assembly at the session of 1888. Since that time $180,000 have been appropriated by our legislature to erect suitable buildings and establish the necessary farms and experimental stations. Very rapid and satisfactory progress has been made and the attendance has been steadily increasing until it now numbers nearly 400. This college is a favorite with the people and is destined to do a great work in its sphere.

REFORM SCHOOL.

This worthy institution is located at Ogden, the second city of the Territory, 37 miles north of Salt Lake City. The legislative appropriations have been ample to construct suitable school rooms, work shops, dormitories, etc., to accommodate 100 children, and all necessary educational and manual training are furnished the inmates. The grounds consist of about 60 acres, which are under the highest state of cultivation in parks, orchards, etc. The institution is continually receiving and discharging inmates, and much good is being accomplished at this home for the wayward.

INSANE ASYLUM.

This institution is situated at Provo, about 50 miles south of the capital.

It is an institution that any of the States might well feel proud of, and is sufficient to care for our unfortunate insane in the wisest and

most humane manner. One hundred thousand dollars was appropriated by our legislature to maintain this home for the unfortunate during the years 1892 and 1893.

THE PENITENTIARY.

This institution is still under the control of the United States marshal. The new buildings recently constructed are a great improvement and were much needed.

INDIANS.

The Indians of the Territory are all quiet and peaceably disposed. The number upon the Uintah and Uncompahgre reservations is about 2,000, and the number of acres within the reservation aggregate about 4,000,000. The lands included within this reservation are some of the most fertile and well-watered lands within the Commonwealth. As the acreage per capita for the Indians is so unnecessarily large as to be entirely beyond reason, I have to recommend that early provision be made for the allotment in severalty of suitable quantities of such land to the Indians, and that the remainder of the lands be then thrown open to the public for settlement. I ought also to say that any further removal of the Indians from Colorado or elsewhere to this Territory, would be such a grave injustice and impediment to the progress of the Territory that it ought not to be considered, much less permitted.

THE SCHOOL LANDS.

These lands as a rule are unoccupied and unproductive and are of little value without irrigation.

EDUCATIONAL.

In addition to the educational facilities afforded by the Territorial University and Agricultural College, which are maintained by direct appropriations from the general fund by the Territorial legislature, there are paid into the public treasury general school taxes aggregating $360,000 per annum. This tax is apportioned according to the school population, by the Territorial superintendent of district schools, and is expended for the support and maintenance of free public district schools throughout the Territory. In the two cities of Salt Lake and Ogden, during the past two years, more than $750,000 have been raised on bonds alone and expended in the erection of free public district schoolhouses. These buildings are of the most modern architecture, supplied with the very latest appliances, accommodate more than 7,000 children, and would be a credit to any city of the American continent. Besides these, during the same period, hundreds of other cities, towns, and districts have expended large sums in the erection of modern school buildings, and when the scores of magnificent and costly colleges and academies, which have been built by the different churches, are taken into consideration, it is not speaking extravagantly to say that no State or Territory has better educational facilities than can be found in Utah. Heretofore the illiteracy of the Territory has been less than 4 per cent., and with such an increase in school buildings we have great hopes of very materially reducing this figure in the near future, and of standing foremost among the States.

AGRICULTURE.

The agricultural lands of the public domain are being settled upon and titles taken therefor as rapidly as irrigation can be procured for the same. The expense of constructing canals is very heavy, and as title to the lands can not be procured without conducting water upon the several subdivisions, it necessitates the formation of companies and the investment of large sums of money to convey the water upon the land. As capital is slow to invest in enterprises promising indefinite returns, the complete settlement of these lands will of necessity be protracted. The lands that are provided with sufficient water for irrigation are being rapidly brought under a high state of cultivation, and our valleys are dotted with orchards and vineyards bearing the choicest fruits and yielding steady and satisfactory returns to the owners.

FORESTS.

There are no forests of importance in the Territory. The limited supply of timber growing on the sides of our mountains is of such a character as to be better adapted to railroad building, mining, and for fuel than for other purposes.

UNDEVELOPED RESOURCES.

There are within the Territory mountains of the richest iron and copper ores, vast beds of coal, sulphur, and other valuable deposits, which only need the touch of capital and access to railways to bring into the market of the world untold hidden treasures.

LEGISLATION.

On the 6th of May, 1886, I first qualified as governor of the Territory. At that time conditions were vastly different commercially, socially, and politically from those now existing. The enactment of and enforcement of the laws for the suppression of polygamy had produced a feeling of intense bitterness. Strife and contention prevailed throughout the Territory. The Mormon and non-Mormon people held themselves separate and apart from each other as if they were of different races. Each looked upon the other as enemies to the public good. I have noted with the most profound gratification a progressive and continuous improvement, and have witnessed the creation of a new era wherein our people unitedly and harmoniously are striving for the good of all. While the embers of the old hate are occasionally revived into a feeble flame by the breath of bigotry or prejudice, peace prevails within our borders and our people are happy. The sources of difference, which have in the past divided and kept separate the two elements of the community, Mormon and non-Mormon, viz., polygamy and the maintenance of a political party composed almost, if not entirely, of members of the Mormon Church, and, as contended by those opposing it, dominated and controlled by its priesthood, happily no longer exists. The practice of polygamy has been abandoned by the church and people. Polygamous marriages are forbidden by the authorities of the church, and those who would contract such marriages now would subject themselves to excommunication from that body. The People's or Church party was formally disbanded by its constituted leaders more than two years ago, and its former adherents allied themselves

and have since acted with the two great national parties. So long as the Mormon Church authorities held an attitude of defiance to the laws I favored the strongest and most rigorous measures. Now that they and the people have yielded and conformed to the law and are doing all within their power to establish and maintain harmonious relations with the people of the whole country, they should be encouraged, if not by liberal and generous consideration, at least by fair and just treatment. A careful review of our past history and the situation locally confronting us imperatively demands, in my judgment, the enactment of two measures of relief, the repeal of the provision of the law of March 3, 1887, escheating the property of the Church of Jesus Christ of Latter-Day Saints and an act restoring the property to the church.

By an act of Congress of March 3, 1887, the corporation of the Church of Jesus Christ of Latter-Day Saints was dissolved and the attorney-general directed to take the necessary proceedings to wind up the affairs of the corporation and escheat its real estate held in violation of the act of July 1, 1862.

In pursuance of the law of 1887 suit was brought in the supreme court of the Territory of Utah and a receiver was appointed to take possession of all the property of the church, real and personal, who still retains possession of the same.

The value of the real property is about $285,000; that of the personal property, about $450,000, making a total valuation of about $735,000.

The supreme court of the Territory decreed that the personal property had been escheated to the United States, but on appeal to the Supreme Court ot the United States the decree of the lower court was so modified as to direct that the personal property should be devoted to some charitable use, lawful in its character, to be determined by a master appointed by the supreme court of the Territory. Subsequently the latter tribunal decided that the property should be vested in a trustee, to be appointed by the court, and the proceeds of the fund devoted to the support and aid of the poor of the church and to the building and repairing of its houses of worship. The United States appealed from this decision and the case is now pending in the Supreme Court of the United States.

Suit was brought to escheat all the real estate belonging to the church except the Temple Block in Salt Lake City, which has been set apart for church purposes under the provisions of the law. The supreme court of the Territory recently decided that the church had a vested interest in the tithing house and grounds and in the historian's office before the passage of the act of July 1, 1862, and that therefore these pieces of property were not subject to escheat, but that the residence of the president of the church, the church farm, and an interest in some coal lands were escheated to the United States. These cases have also been appealed to the Supreme Court of the United States and are now pending there.

The legislation above referred to was enacted for the express purpose of suppressing polygamy, and was justified alone upon the grounds that the property and funds would be used in the support and aid of that unlawfnl institution. The church has abandoned the practice of polygamy and no longer teaches it, or permits its members to enter into the relation. There is left neither reason nor excuse, in my judgment, for taking from the Mormon Church and people this property, and it ought to be restored to them. The courts should no longer be cumbered with the question of its disposal and the fund consumed in

costs of litigation. The Mormon people, while undergoing the many hardships and deprivations of the pioneer frontier life through many weary years, by their voluntary subscriptions created this fund, and when it is beyond all question that it would be devoted to no unlawful purpose, but to commendable and charitable uses, it ought to be returned to them. Such fair and just action by Congress would give great satisfaction to the people of the Territory and encourage and strengthen the constantly growing sentiment of cordiality and good feeling among the people. I earnestly urge that Congress be recommended to promptly pass the desired relief, because "He gives twice who gives quickly."

STATEHOOD FOR UTAH.

This Territory has been settled for almost a half century. The pioneers came to the site of the present city of Salt Lake on July 24, 1847. Our state of probation has been long. Our schooling for statehood full and complete. As illustrative of our probationary period I quote as follows from an article on the subject of Statehood for Utah, by the Hon. George Q. Cannon, in the May number of the Utah Monthly Magazine:

"We are to-day passing into the fourth generation—not of time, but of people—in Utah who have never known from practical observation what the glories of our free institutions in America mean. I have in mind the case of a man who came to Utah very soon after he had reached his majority. Almost his sole relation to the political affairs of the United States has been through the medium of Territorial government, which is merely a form of political slavery for the inhabitants. His son was born in Utah in 1848 or 1849 and has dwelt here all his days. That son's son was born in Utah in 1870. And that grandson's son is here to grow into boyhood and eventually into maturity if he shall live—without experiencing in himself one throb of the mighty exultation which comes to the free born, unless Utah shall receive her rights or unless he shall remove from kindred and home to find a larger sphere for the exercise of ability and patriotism."

We now have a population of about 240,000. An assessed taxable valuation of $109,000,000. It is scarcely necessary to dilate upon or go into particulars as to Utah's population, wealth, stability, and material development entitling her to statehood.

It is fully covered and established by the favorable reports made to the House of Representatives from its Committee on Territories at the first and second sessions of the late Congress, and indeed it is now conceded by all as indisputable. Our population is active, enterprising, industrious, and thrifty and will compare favorably in all the elements of good citizenship with any people.

Our improvements, both public and private, are upon a liberal and generous scale, commensurate with our wealth and ability. Educational and school advantages are good and constantly being improved. We have an enlightened, well ordered, strong, self-sustaining community, enjoying all the advantages and comforts of modern cultivation and civilization.

I suppose it will not be disputed, but for the teaching and practice of polygamy, and as contended, the existence and rule of a political party in the Territory under the direction and control of the Mormon church and its priesthood, Utah would long ago have become a sovereign State. As hereinbefore stated the practice of polygamy has been absolutely abandoned. The People's or Mormon Church party has been dissolved and no longer has either an organization or membership. The highest authorities of the Mormon Church, their chief men and leaders, upon all proper occasions have publicly denied that

they claim the right to, or do, or will attempt to exercise any church influence or power to control the political action of its members.

It would seem that with the removal of the only causes heretofore hindering and obstructing admission, and a constant increase in population, wealth, and development of the Territory, that none should now be found to oppose Utah's entering the Union.

It is true, however, that a small minority continue to interpose objections to the conferring of this great boon upon the Territory. Those composing it found their opposition upon a doubt as to the sincerity of the Mormon people in the action they have taken toward the settlement of the old questions of disturbance. Compelled to admit the actual occurrences which have taken place within their own knowledge, they take counsel of their prejudice and fears, and deny to the Mormon people the common justice of being judged according to their declarations and deeds, ascribing to them motives and purposes which they expressly disclaim.

It affords me pleasure, however, to be able to state that this class is constantly growing less and its numbers rapidly decreasing. Many of those who have opposed in the past all movements looking to Utah's admission have abandoned their opposition and now heartily favor it, and give their earnest support to the present movement.

I know of no people who, in their prepartion for statehood, have been confronted with as delicate and grave questions and as radical differences, requiring the cultivation and exercise of the highest public qualities, yet the responsibility has been met with patience and forbearance, and our people, after years of earnest effort, have peacefully solved their difficulties and satisfactorily settled their differences. The salutary lessons inculcated in the school of actual experience have admirably trained and fitted them for the duties and responsibilities of a State government.

Being aware of the great amount of business that will be brought before Congress, and that much legislation which would otherwise receive favorable action must necessarily be deferred in consequence of lack of time for consideration, I have purposely refrained from suggesting other necessary and desirable measures of legislation and confined myself to urging the prompt and favorable action upon the two suggested in view of their overwhelming importance and the benefits to accrue from their enactment into law.

I sincerely trust, Mr. Secretary, that you may find it in consonance with your views to recommend their early and favorable consideration.

Very respectfully, your obedient servant,

CALEB W. WEST.

Hon. HOKE SMITH,
Secretary of the Interior.

ANNUAL REPORT

OF

THE UTAH COMMISSION.

SALT LAKE CITY, UTAH,
September 19, 1893.

SIR: The Utah Commission, observing its practice of reporting annually its proceedings for your information, hereby respectfully submits its report for the year expiring September 1, 1893.

In the interest of clearness and precision, its proceedings will be treated as nearly as may be in the order of their occurrence.

Concomitently, some reflections and remarks will be indulged by way of elucidation.

ELECTIONS.

An important change has transpired in respect to the time of holding elections in the Territory.

Formerly, under the Territorial act of 1853, as amended by subsequent acts, the general elections for Territorial, district, county, and precinct officers were held on the first Monday of August, annually, and the municipal elections for city and precinct officers were held annually or biennially at varying intervals of time, ranging over most of the year.

Separate registrations for these general and municipal elections were necessary, and at least two separate periods of registration were required. This diversity of the periods of election necessarily entailed a considerable and needless expenditure of time and money, and was burdensome both to the electors and to the people at large, and devolved upon the Commission the further and delicate duty of seeing that the electoral lists for the general, municipal, and special elections were made out and kept separately; that the ballots cast at each of said elections were kept separate, and the count and return thereof made and kept separately. This particularity was rendered necessary, in part, by the fact that the qualifications of electors for Territorial, district, county, and precinct officers differ under the law from the qualifications of electors for municipal officers, and also from the fact that the municipal precincts had in many instances different boundaries from those designated for other officers.

To induce legislation corrective of this evil, through its annual reports and also by individual effort the Utah Commission called public attention to this condition of affairs, and the burdens attending so complex a system.

For the purpose of effecting a correction of the evils pointed out, two acts of the Territorial assembly were passed, one affecting the registration of voters and the other the time and manner of holding elections.

Both were approved March 10, 1892. The first mentioned fixed one period for the house-to-house registration of electors and the second provides that all elections, general or municipal, including elections for members of the Territorial assembly, and Delegate to Congress, should

be held on one and the same day, namely, on the Tuesday after the first Monday in November, biennially.

The pending elections, both general and municipal, will be held answerably to the requirements of these acts on the 7th of November next.

Thus a reform is already initiated, which is working a material saving in time and money to the electors and taxpayers, and which is already hailed with public approval.

INDUSTRIAL CHRISTIAN HOME.

About the 22d of May last the Commission was notified by the Industrial Christian Home Association of Utah that Congress having failed to make any appropriation for the maintenance of that institution, it would be closed about the 15th of the following month, June, and the building and furniture surrendered to the Utah Commission, which, under the law, is a board of control of that institution. This fact was immediately communicated to the Secretary of the Treasury, who responded to the same by telegram as follows:

WASHINGTON, D. C., *June 10, 1893.*

A. B. WILLIAMS,
Chairman Utah Commission, Salt Lake City, Utah:

As suggested in your letter of 22d ultimo, the Utah Commission is hereby authorized to surrender quarters now occupied and move in and take possession of building for Industrial Christian Home, which institution you state will be closed about the 15th instant. * * *

JOHN G. CARLISLE,
Secretary.

Upon further consideration the Christian Home Association concluded to retain possession and keep the institution open until the 30th of June instead of closing on the 15th as first indicated.

On the 19th of June the following communication was addressed to Mrs. Jeanette H. Ferry, the president of the Home Association:

OFFICE OF THE UTAH COMMISSION, *June 19, 1893.*

MRS. JEANETTE H. FERRY,
President W. I. C. H. A.,
Park City, Utah:

I am directed by the Utah Commission now in session to make inquiry of you if it is the purpose of the association to continue the home in operation after the 30th day of June instant, the end of the fiscal year, in the absence of any appropriation by Congress. This information is desired at as early a time as may be convenient in order that the Commission may be advised of what action to take in case of a discontinuance of it.

I have the honor to be, most respectfully,

A. B. WILLIAMS,
Chairman Utah Commission.

And the following correspondence ensued:

JUNE 24, 1893.

DEAR SIR: In reply to your communication of June 19, 1893, I am directed by the Industrial Christian Home Association of Utah, to say that it will not be able, from lack of funds, to carry on the work of the home in the building now used after June 30, 1893, and that its future work will depend upon circumstances, which make it impossible at this time to say what it will be able to do.

So far as possible it is the intention of the association to secure other homes for the inmates, and in case of failure they will be turned over with the building to the care of the Commission.

The association will be glad to render any service it can in the matter. On Saturday morning, July 1, 1893, the keys of the building, with an inventory of the property placed in the custody of the association, will be handed to the Utah Commission as the representative of the Government.

JEANETTE H. FERRY,
President Industrial Christian Home Association of Utah.

Hon. A. B. WILLIAMS,
Chairman Utah Commission, Salt Lake City, Utah.

OFFICE OF THE UTAH COMMISSION, *June 26, 1893.*

DEAR MADAM: Your communication in writing of the 24th instant is received. The Utah Commission has instructed me as chairman to inform you that the commission will be ready to receive possession of the home building, premises, furniture, and other personal property on the 1st of next July, insisting, however, that the home shall have been, in the meantime, vacated by its beneficiaries.

Very respectfully, your obedient servant,

A. B. WILLIAMS,
Chairman.

MRS. JEANETTE H. FERRY,
President Industrial Christian Home Association of Utah.

PARK CITY, UTAH, *June 27, 1893.*

DEAR SIR: The communication of the Utah Commission of June 26 was to-day received and contents noted. I will at once call the attention of the executive committee to the same, asking for their immediate consideration.

Yours, respectfully,

JEANETTE H. FERRY.

Hon. A. B. WILLIAMS,
Chairman Utah Commission.

On July 5, Commissioner McClernand presented to the Commission the following resolution, which was unanimously adopted:

Whereas the Industrial Christian Home Association of the Territory of Utah, ceasing to use the grounds and buildings provided by certain acts of Congress approved August 4, 1886, and October 19, 1888, did, on the 1st day of July, 1893, voluntarily deliver possession of the said premises, and of certain goods and chattels appertaining thereto, to the Utah Commission as a board of control, as will more fully and definitely appear by the following exhibits marked 1 and 2 respectively:

EXHIBIT 1.

SALT LAKE CITY, UTAH, *July 1, 1893.*

GENTLEMEN: The late session of Congress having failed to make an appropriation for the paying of the expenses of the Industrial Christian Home Association of Utah for the fiscal year ending June 30, 1894, and the association being without funds to pay the same, I am instructed by the board of directors to turn over and deliver to you, as the board of control, the Industrial Home building and grounds in this city, with the furniture and fittings therein, as per inventory herewith attached.

Yours, very respectfully,

H. W. LAWRENCE,
Chairman Executive Board.

The UTAH COMMISSION.
Salt Lake City.

(Exhibit No. 2, being simply an inventory of the furniture turned over by the Industrial Home Association, is omitted from this report.)

And whereas the chairman of the Utah Commission having in a written communication, dated the 22d day of May, 1893, advised the Secretary of the Treasury of the United States that the Industrial Christian Home Association of Utah proposed, on or about the 15th day of June, 1893, to discontinue its work and surrender the building occupied by it to the Government;

And whereas in said communication said chairman did suggest to said Secretary that said building was sufficiently large and commodious to accommodate, be occupied and used by the Utah Commission and other Government officers in Salt Lake City as offices, at a large saving of rents annually to the Government, in response to which suggestion said Secretary did, on the 1st day of June, 1893, transmit by telegraph the following order to said chairman:

(See telegram on page — of this report.)

Now, therefore, in consideration of all and singular the premises—

Resolved, That the Utah Commission, as such, and as a board of control as aforesaid, do by these presents accept and receive the property, real and personal, hereinbefore described; subject, however, to the provisions of the said act of Congress approved October 19, 1888, and for the purposes in the said order of the Secretary of the Treasury above mentioned, and subject also to any other or further competent order touching the premises.

OFFICE OF THE UTAH COMMISSION, *July 7, 1893.*

Comissioner McClernand offered the following resolution, which was unanimously adopted:

Resolved, That the Utah Commission will, as soon as reasonably may be, surrender their present official quarters in Salt Lake City and occupy and use so much of the building and grounds heretofore provided by law for an Industrial Home, and of the furniture appertaining thereto, as may be needful.

Ordered, That a copy of the proceedings of the commission of July 6 relating to the Industrial Home be forwarded to the honorable Secretary of the United States Treasury, and also to the honorable secretary of the Interior, for their information.

Pursuant to which, the following communication was addressed to the Secretary of the Treasury, and also to the Secretary of the Interior:

OFFICE OF THE UTAH COMMISSION,
Salt Lake City, July 7, 1893.

SIR: By direction of the Utah Commission I submit herewith for your information the accompanying extract from the record of the proceedings of the Commission. By like direction I would add that the Commission is now preparing to transfer its official quarters to the United States building recently vacated and surrendered by the Industrial Christian Home Association of Utah, and that the same building would afford ample accommodations for other Federal appointees officiating in Utah, viz, for governor, secretary of the Territory, surveyor-general, receiver of public moneys for the land office, register of the land office, deputy collector of internal revenue, and, in an emergency, for the two houses of the Territorial legislature, at an annual saving of several thousand dollars in rents to the General Government.

I have the honor to be, very respectfully,

A. B. WILLIAMS,
Chairman of Utah Commission.

Hon. JOHN G. CARLISLE,
Secretary of the Treasury, Washington, D. C.

OFFICE OF THE UTAH COMMISSION,
Salt Lake City, July 7, 1893.

SIR: By direction of the Utah Commission I have the honor to transmit herewith the inclosed communication, this day addressed to and forwarded to Hon. John G. Carlisle, Secretary of the Treasury, as to certain proceedings had by the commission under and by his directions, for your consideration, and respectfully call your attention to the suggestions therein made in the interest of economy.

I have the honor, to be very respectfully,

A. B. WILLIAMS,
Chairman Utah Commission.

Hon. HOKE SMITH,
Secretary of the Interior, Washington, D. C.

When the building was vacated it was found upon inspection that it was considerably out of repair, that some necessary improvements had to be made before the Commission could occupy it, so that the actual occupation did not take place until about the 1st of August.

The Commission is now occupying as much of it as is necessary for its use. The present quarters are quite commodious and comfortable.

The building is a large and handsome one and, as indicated hereinbefore, has room enough to accommodate all the Government offices in the city of Salt Lake, except the post-office and the courts, and if thus used would be the means of saving several thousand dollars annually in the way of rents.

It is the only building in the city that belongs to the Government, and since the purpose for which it was erected has been abandoned it should be utilized for some public purpose, and none appears to be more fitting than its occupation by those officials for whose official quarters the Government has to provide and for which it has to pay rent.

By the removal of some partitions, thus throwing together larger areas, abundant room could be made for the two houses of the Territorial assembly, in addition to the rooms for the public offices.

The cost of the grounds and the erection of the building has been about $100,000, and it would seem to be poor economy to let a structure costing so much money, and so well suited for the purpose, stand unused and become the abode of owls and bats, and at the same time pay high rates of rent for rooms situated within a few squares of this unoccupied but elegant structure.

It is respectfully submitted that a small appropriation should be made to keep the building in repair.

The Commission has employed a janitor to care for the building, causing his family to take their quarters therein, who is being paid out of the appropriation made for the contingent expenses of the Commission, but the limited amount of that fund precludes the application of any portion of it toward the repairs necessary about the building or necessary work about the grounds. So elegant a building should be well taken care of and not permitted to go to ruin for the want of a small amount of money, which will be the case in the absence of an appropriation.

Suggestions have been made by some parties that it should be turned into a soldiers' home, and by others that it should be donated to the City of Salt Lake to be used for high-school purposes.

While these uses are each to be commended the absence of any Government building in the city, and the large outlay necessarily paid annually in the way of rents for offices, constrains this Commission to recommend that it be utilized as above suggested.

ELECTIONS.

Since the last annual report of the Commission elections have been held in all the counties in the Territory, and in thirteen towns and thirty-three cities.

At the general election held on the 8th of November, 1892, the following number of officers were chosen, to whom, in all cases where the law required it, certificates of election were furnished, without any charge therefor, as the Commission have been heretofore falsely accused of doing.

Officers elected November 8, 1892.

Delegate to the Fifty-third Congress	1
Commissioners to locate university lands	3
Clerks of county court	26
County recorders	26
Assessors and collectors	19
Assessors	7
Collectors	7
Sheriffs	26
County prosecuting attorneys	26
County treasurers	26
County surveyors	26
County coroners	26
Selectmen	78
Superintendents district schools (county)	2
Justices of the peace	302
Constables	302

Municipal officers elected November 8, 1892.

Mayors	33
Councilmen	239
Recorders	33
Collectors	33
Treasurers	33
Justices of the peace	37
Marshals	33

Town officers elected November 8, 1892.

Presidents	13
Trustees	52
Election for and against removal of county seat, in Emery County	1
Special election to incorporate city of Sandy	1

Election officers appointed.

Judges of election appointed October, 1892	1,159
Canvassers appointed October, 1892	4
Registration officers appointed July, 1893	344

The following is the analysis of the vote by counties, November 8, 1892:

Counties.	Total votes.	Democratic.	Republican.	Liberal.
Beaver	620	262	199	32
Box Elder	1,398	557	452	130
Cache	2,861	1,413	1,023	59
Davis	1,152	558	265	65
Emery	1,239	461	365	118
Grand	179	13	77	27
Garfield	507	169	197	7
Iron	474	198	211	4
Juab	1,491	461	460	188
Kane	291	57	166	.....
Morgan	343	160	132	19
Millard	801	324	304	19
Piute	359	114	96	47
Rich	281	145	73	18
Salt Lake	16,369	3,345	2,570	4,023
San Juan	70	18	24	.....
Savier	1,097	414	443	38
Sanpete	2,282	977	966	59
Summit	2,769	689	445	632
Tooele	803	260	306	99
Utah	4,774	2,115	1,680	255
Uintah	600	214	144	10
Wasatch	646	280	233	1
Wayne	291	128	93	2
Washington	710	412	152	3
Weber	5,673	1,467	1,330	1,135
Total	48,080	15,221	12,425	6,992

REGISTRATION.

The registration prior to the election held the 8th of November, 1892, was a very full one, representing as nearly the electoral strength of the qualified voters of the Territory as it is likely to be represented by any registration that may take place in the future. Political excitement was high, the respective parties were represented in the canvass by very able men, and each party was at great pains to get out its full strength.

It is a matter of much gratification to the Commission to say that the registration was made with great fairness and legal strictness, and that the election, though party spirit ran high, was free from turbulence and irregularities, and was both in respect to the registration and the election as free from fraud as those in any other State or Territory.

The revision of the registration lists for the November election is now completed, so far as the house-to-house canvass is concerned, the posting of notices of the completion of the lists, the filing and hearing of objections to the qualifications of electors who may not be entitled to registration, and the filing with the clerk of the probate court the oaths administered and signed by those permitted to register, being about all that remains to be done. The judges who will hold the ensuing election are yet to be appointed, which will be done during the month of October. There will be about 1,200 of them.

AMNESTY.

When the time to begin the revision of the registration lists for the coming November election arrived, the Commission found itself very much embarrassed in consequence of the legal proposition presented by the proclamation of President Harrison of the 17th of February, 1893, granting amnesty and pardon to that class of the Mormon people who were, by the eighth section of the act of Congress of March 3, 1887, commonly called the Edmunds-Tucker act, denied the right of registering and voting.

In its embarrassment, being desirous to do right, and an injustice to no one, it instinctively turned to the law officer of the Government for an official opinion and solution of what the Commission considered was purely a legal proposition. To secure such an opinion the following communication was addressed to the Secretary of the Interior:

OFFICE OF THE UTAH COMMISSION,
Salt Lake City, June 19, 1893.

SIR: The Commission of Registration and Election for the Territory of Utah, commonly called the "Utah Commission," in the discharge of the duties enjoined by the acts of Congress finds itself embarrassed between the acts of the 22d March, 1882, known as the Edmunds act, and of the 3d of March, 1887, known as the Edmunds-Tucker act, on the one side and on the other side by the proclamation of President Harrison of the 17th of February, 1893, granting full pardon and amnesty to certain classes of persons in the Territory of Utah who, by the 8th section of the act of 3d March, 1887, were denied the privilege of registering and voting at all elections.

As chairman of the Commission, I am directed to ask that you refer the proposition to the Attorney-General of the United States for an official opinion, as to whether the President's proclamation has the effect to restore, unconditionally, the right to register and vote of all those persons laboring under the disabilities imposed by the acts aforesaid; and, also, if it applies to persons convicted of offenses enumerated therein, as well as to those who have not been convicted. (Murphy *vs.* Ramsey, 114 U. S. R. Reynolds *vs.* U. S., 98 U. S. R.)

This question requires immediate settlement, as the period of registration is near at hand, when the rule, whatever it may be, will have to be applied; wherefore an early opinion is respectfully asked.

I have the honor to be, very respectfully,

A. B. WILLIAMS,
Chairman Utah Commission.

Hon. HOKE SMITH,
Secretary of the Interior, Washington, D. C.

The following is the correspondence which ensued by letter and telegraph regarding the same:

WASHINGTON, D. C., *June 7, 1893.*

Hon. A. B. WILLIAMS,
Chairman Utah Commission, Salt Lake City, Utah.

Question submitted to Attorney-General for opinion on 27th ultimo.
None rendered up to this date.

WM. H. SIMS,
Acting Secretary of Interior.

[Telegram.]

OFFICE OF THE UTAH COMMISSION, *July 5, 1893.*

Hon. HOKE SMITH,
Secretary of the Interior, Washington, D. C.:

The Utah Commission desires to know if any reply has been made to their communication of the 19th ultimo as to the effect of pardon and amnesty upon the electoral qualifications of persons convicted of polygamous offenses in Utah.

A. B. WILLIAMS,
Chairman.

OFFICE OF THE UTAH COMMISSION, *July 11, 1893.*

Hon. HOKE SMITH,
Secretary of the Interior,
Washington, D. C.:

The time for the registration of voters in the Territory is so near at hand that the Utah Commission is embarrassed by the delay of the Attorney-General in not giving an opinion on the effect of the President's proclamation of amnesty upon polygamists' right to register and vote, solicited heretofore through your office, and most respectfully urges that it be furnished at the earliest possible time.

Respectfully,

A. B. WILLIAMS,
Chairman.

WASHINGTON, D. C., *July 17, 1893.*

Hon. A. B. WILLIAMS,
Chairman Utah Commission Salt Lake, Utah:

Under date of 12th instant, Attorney-General declined to render an opinion on question presented in your letter of the 19th ult., having no authority to advise Commission in exercise of duties of their office.

WM. H. SIMS,
Acting Secretary.

The Commission did not suppose that it was asking the Attorney-General for his advice as to the "exercise of the duties of their offices," but believed they were submitting a question as to the construction to be given to the proclamation of the President as applied to the acts of Congress above referred to, having in view the opinions of the Supreme Court of the United States rendered in the cases of Reynolds *vs.* the United States (98 U. S. R.), and of Murphy *vs.* Ramsey (114 U. S. R.). Nor has the Commission to this time, after much reflection, been able to determine how such an opinion would have been in any wise advisory as to the duties of their offices, but still regard it as a plain legal proposition.

Bowing to the refusal to render the opinion asked, the Commission proceeded to consider the question and made the following ruling under which the registration has proceeded and which is now practically completed.

OPINION OF THE COMMISSION.

The following resolution was presented and unanimously adopted by the Utah Commission:

Whereas, a difference of opinion appears to exist as to the efficacy of the amnesty granted by ex-President Harrison to relieve sexual offenders in Utah from prior disabilities to vote; and

Whereas, in the interest of elective government that doubt ought to be solved in favor of the man: Therefore

Resolved, That any person in the Territory otherwise qualified to vote and who has abstained from committing any such sexual offense since November 1, 1890, ought, in the opinion of the Commission, for the reason aforesaid, to be permitted to register.

SALT LAKE CITY, *July 18, 1893.*

While we voluntarily concur in the proposition to advise the registrars and officers of the various election precincts that in the opinion of the Commission they may and should permit former polygamists to register as voters, if otherwise qualified, upon their taking an oath or affirmation that they have not, since the 1st of November, 1890, been guilty of the practice forbidden by the acts of Congress known as the Edmunds and Edmunds-Tucker laws, we desire to record that it is our opinion, speaking strictly from a legal standpoint, and not as we might wish were its legal effects, that the deprivation of the voting privilege is merely an electoral regulation, fixing the qualifications of voters, and not a penalty or punishment for crime or disobedience to the law, and therefore that the amnesty proclamation of the President does not, without further legislation, restore the privilege of voting to those thus disfranchised.

As this is a question, however, upon which opinions differ, even among those who command respect for legal acumen, it becomes so much a question of doubt that we

feel impelled to resolve the doubt in favor of those who suffer from the deprivation, and therefore give our assent.

If an error of judgment, it is an error on the side of clemency, is in accord with the spirit of the proclamation, and, as we believe, in accord with the sentiment of the people of the Territory, as well as one which can more readily be defended than an error in the other direction.

R. S. ROBERTSON.
A. B. WILLIAMS.
JOHN A. MCCLERNAND.

We cast our vote in favor of the resolution for the reason that we believe it to be the law.

G. L. GODFREY.
HENRY C. LETT.

As appears above, the Commission was divided in opinion on the question, as there was a division of opinion among the most eminent lawyers and jurists of the Territory, the majority being of the opinion that a strict construction being given to the acts of Congress and the opinions of the Supreme Court of the United States, cited above, would operate to the continued disfranchisement of the classes as electors hitherto affected.

Having invoked an opinion on the question from the Attorney-General, through the Secretary of the Interior, as it had done on previous occasions with satisfactory results, and failing to meet with success, the Commission was left to decide the question for itself, and the majority, being met by an able and respectable minority as well as by the opinions of some of the ablest lawyers in the Territory, yielded so far as to agree to a liberal construction of the law, and if there was a doubt on the proposition to give the benefit of it in favor of the right of the hitherto disfranchised electors, and in conformity to that opinion issued a circular to the registering officers that had been appointed, advising them that in the opinion of the Commission it would be right to permit affected classes to register on taking the proper oath, provided they did not come within the exception made in the proclamation of the President on that subject.

As a legal proposition it is yet unsettled judicatively, and the Commission respectfully recommends that Congress do legislatively pass upon this important question.

The following is the text of the President's proclamation referred to above:

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA.

A PROCLAMATION.

Whereas Congress, by a statute approved March 22, 1882, and by statutes in furtherance and amendment thereof, defined the crimes of bigamy, polygamy, and unlawful cohabitation in the Territories and other places within the exclusive jurisdiction of the United States and prescribed a penalty for such crimes; and

Whereas, on or about the 6th day of October, 1890, the Church of the Latter-Day Saints, commonly known as the Mormon Church, through its president, issued a manifesto proclaiming the purpose of said church no longer to sanction the practice of polygamous marriages and calling upon all members and adherents of said church to obey the laws of the United States in reference to said subject-matter; and

Whereas it is represented that since the date of said declaration the members and adherents of said church have generally obeyed said laws and have abstained from plural marriages and polygamous cohabitation; and

Whereas, by a petition dated December 19, 1891, the officials of said church, pledging the membership thereof to a faithful obedience to the laws against plural marriage and unlawful cohabitation, have applied to me to grant amnesty for past offenses against said laws, which request a very large number of influential non-Mormons, residing in the Territories, have also strongly urged; and

Whereas, the Utah Commission, in their report bearing date September 15, 1892, recommended that said petition be granted and said amnesty proclaimed, under

proper conditions as to the future observance of the law, with a view to the encouragement of those now disposed to become law abiding citizens; and

Whereas, during the past two years such amnesty has been granted to individual applicants in a very large number of cases, conditioned upon the faithful observance of the laws of the United States against unlawful cohabitation; and there are now pending many more such applications:

Now therefore, I, Benjamin Harrison, President of the United States, by virtue of the power in me vested, do hereby declare and grant a full amnesty and pardon to all persons liable to the penalties of said act by reason of unlawful cohabitation under the color of polygamous or plural marriage, who have since November 1, 1890, abstained from such unlawful cohabitation; but upon the express condition that they shall in the future faithfully obey the laws of the United States hereinbefore named, and not otherwise. Those who shall fail to avail themselves of the clemency hereby offered will be vigorously prosecuted.

In witness whereof I have hereunto set my hand and caused the seal of the United States to be affixed. Done at the city of Washington this 4th day of January, in the year of our Lord 1893, and of the Independence of the United States the 117th.

[SEAL.] BENJAMIN HARRISON.

By the President:

JOHN W. FOSTER,

Secretary of State.

MORMONS.

After a troubled experience in Ohio, Missouri, and Illinois the Mormons, or Latter-Day Saints, emigrated from the United States and settled in the valley of the Great Salt Lake, which was then a part of the territory of the Mexican Republic. This was in 1847. In 1848 an extensive region, including that valley, was ceded by the Mexican Government, under the treaty of Gaudeloupe Hidalgo, to the United States.

This migration was doubtless prompted by different motives—one, escape from civil restraint in the United States; another, the opportunities afforded the emigrants in a new country to improve their material welfare.

Salt Lake is a remarkable geographical feature. It is the largest inland body of salt water known. It covers an area of 3,600 square miles, is bisected by a broken mountain range, is environed by lofty mountains cleft at intervals by canyons, and is fed by numerous rivers, which are in turn fed by winter's accumulated snows dissolved and descending the mountains in the summer. The snowfall is ominous and alarming to the stranger, but is welcomed by the husbandman and herdsman whose homes are among the mountains. It means to them foliage, esculent roots, fruits, cereals, and green pastures.

Salt Lake is without any defined outlet. Its chief waste is due to solar evaporation, which also mainly regulates its rises and falls. Its waters are strongly impregnated with common salt, and, in lesser degree, with alkali, which renders them uninhabitable to all kinds of fish. Probably their saline properties are derived from an underlying salt bed, as formations of rock salt are found not to be infrequent in the Territory.

The number of Mormons who settled in Utah in 1847, according to accredited accounts, scarcely exceeded 150, whereas the present inhabitants of the Territory, exclusive of Indians, Chinese, and Hawaiians, number quite 225,000.

POLYGAMY.

The early and continued disfavor incurred by the Mormons in Utah arose from their profession and defense of plural marriage as a cherished tenet of their religious and social system. From 1847 to July 1, 1862, such marriages were contracted in increasing numbers and with

impunity. The (Poland) act of 1862 denounced polygamy as a crime punishable with fine and imprisonment, but for fourteen years after the date of that act no conviction was had under it. This failure of criminal justice was attributable to several causes—to altercations respecting the boundaries of the spiritual and secular jurisdictions, to the unwillingness of the Mormons to convict or indict polygamists, and to the hesitation of the courts to reject jurors as triers of an issue regarding which their minds were affected by religious bias. It is enough to say, in this connection, that in 1878 the Supreme Court of the United States, in Reynolds *vs.* the United States, swept away all of these hindrances to the courts of justice, and that Congress in 1882 and 1887 added another motive for obedience to the laws by providing that sexual offenders should be disqualified to vote, hold office, or perform jury service. This provision seems to have been intended to operate as an electoral regulation and not as a criminal penalty.

REFORM.

Important consequences followed this action of Congress and of the court of last resort. The spirit of reform was awakened, the laws were promptly and strictly enforced, and the test oath as a precedent condition to the exercise of the elective franchise was taken and subscribed by Mormons as well as non-Mormons. Later, in 1887, the Mormon electors in the Territory framed, adopted, and proposed a constitution for Utah as a State, containing provisions, irrevocable without the consent of Congress, penally prohibiting sexual offenses, and negativing the pardon of sexual offenders without the approval of the President.

In 1890 the Mormon Church, through its president, Wilford Woodruff, declared its opposition to further plural marriages and advised obedience to the laws forbidding them. In 1891 the People's or Mormon Party of Utah, dissolved its political organization in contemplation of a reconstruction of political parties, in the Territory, upon a wider and more liberal basis. And in 1892, the legislative assembly passed an act adopting the provisions of the Edmunds law and Edmunds-Tucker law, respectively, denouncing and punishing polygamy as a crime, and recognizing the original exclusive jurisdiction of the district courts in the Territory (created by Congress) to hear and determine all such cases arising under that act.

THE UTAH COMMISSION.

The Utah Commission was organized under the Edmunds law of 1892 as one of the agents to be employed for the suppression of an obstinate social evil. The members of the Commission were, in the first instance, appointed by President Arthur from different political parties, conformably to that law, and, at the same time, from as many as five States, for the reason, as assigned, that such persons would be unlikely to be biased by the dissensions which had so long disturbed the Territory. This precedent, set by President Arthur, has hitherto been substantially followed by his successors.

For more than twenty-five years Mormon polygamy evinced neither disposition nor ability to redeem itself. Indeed, for more than half that period it was defiant of the law. It had confounded the temporal with the spiritual authority, and had become arbitrary and dogmatic. Withal, it was defended and attacked by implacable local factions, whose intolerance served alike to inflame passion and warp discretion. It was

between these factions, this Scylla and Charybidis, that the Edmunds law projected the Commission somewhat, as a forlorn hope, to sink or swim, as it might happen.

Early after the organization of the Commission, its members were met by leading local journals with scant and frigid courtesy. They were welcomed as sojourners for a term of rest and recreation, of wonderment at the charms of Salt Lake City and its surroundings. But the welcome sensibly implied that the Commissioners, as intruders and supernumeraries, should early renounce their mission and return to their distant homes in the States.

In the meantime a few Mormons, professing extreme unction and intermitting briefly their resentment towards Congress, discharged a volley of lawsuits at the Commissioners, charging them with unlawfully obstructing the right of registration and of voting. Upon the final hearing, the Supreme Court of the United States adjudged the suits to be groundless and the plaintiffs to pay the costs attending them.

Next, an effort was made by a few Gentiles to procure a law substituting a legislative commission invested with proconsular powers, and appointive by the President and Senate, for the Utah Commission, but this scheme, being despotic and un-American, failed, as also did the kindred scheme to disfranchise the Mormons en masse for their membership in the Mormon Church.

So it transpired that the local factions, when not wholly engrossed in fighting each other, turned their attacks alternately or simultaneously against the Utah Commission. Thus the Commission was made representatively responsible for laws in the enactment or judicial construction of which it had no part. Under changing conditions, however, these obstacles are passing away.

Early in 1891, the Mormon or People's Party, formally and absolutely dissolved its organization. Soon after, the Gentile faction informally and partially followed this example. The event was a triumph of progress. It furnished the material out of which the new parties in the Territory, Democratic and Republican, were formed, and which must, in the early future, absorb the remains of the Gentile faction. The new parties, leaving the dead past to bury its dead, are now competing with one another for the palm of local political ascendency. Each is asking Congress for radical legislation, *i. e.*, for territorial home rule, or Statehood, but notably neither is asking by either of those measures, during their pendency, the discontinuance of the Utah Commission.

The ninth section of the Edmunds law creates the office occupied by the Utah Commission and provides, as has been seen, that the Commission shall consist of five members, not more than three of whom shall be of one political party and a majority of whom shall be a quorum. The same section, adopting portions of the Territorial law, devolves on the Commission the task of considering in *pari materia* the germane provisions of each of those laws, and of deducing from them a consistent and effective system. Such a system is now in operation. It contemplates a multifarious service annually, a house to house inquiry, with a view to an annual revision of the electoral registry by adding to or striking names from it; the enforcement of the conditions of registration as affecting voters; the act of registration; the hearing of objections to the right of any person to have his name retained on the registry; the certification of the names adjudged to be wrongfully on the registry to the proper election judges; the transmission of the revised registry with the attending affidavits of electoral qualification

to the county clerk for preservation, subject, however, to proper public and private inspection; the transmission of copies of registries to the presiding judges of elections; the publication of other copies with lists of the offices to be filled by election; the canvass of election returns; the issuing of certificates of election to persons elect, and the appointment of numerous official agents by the Commission, as provided by law, to carry into effect this varied, delicate, and responsible service.

Geographically this service measures the rugged mountainous length and breadth of Utah, 320 miles north and south by 300 miles east and west.

The number of officers appointed by the Commission since the date of its annual report, including those remaining to be appointed with reference to the approaching November election, is 2,667.

This agency, founded on brief words of the Edmunds law, and being a growth of less than twelve years in the hands of the Utah Commission, has, in the meantime, withstood the shifting storms of passion and predjudice. In the meantime, factions have been disbanded, the laws enforced, progress accelerated, and the morality of monogamy vindicated.

In truth, the office of the Commissioners has not been a sinecure. They have had much to think of, often difficult legal questions to solve, many advisory opinions and administrative forms to prepare and circulate, multitudinous inquiries to answer, occasional journeys to make to different places in the Territory to observe the manner and course of official procedure, and, withal, other offices and functions, unattended with any pecuniary recompense, have been added to their trust. Briefly, the Commissioners have spent in coming and going, in office work, and in preparing their reports to the Government, nearly six months in every year since the date of the Commission's organization.

CONSTITUTIONAL AMENDMENT.

In contemplation of the turmoil and trouble born of polygamy, of the uncertainty and inconvenience arising from different State laws regulating marriage and divorce, and in contemplation of the importance of securing the future against the return of those evils, the Commission respectfully recommends that an amendment of the Federal Constitution be adopted, inhibiting polygamy and empowering Congress to prescribe the conditions of marriage and divorce and the manner and effect of authenticating each. The value of such an amendment as concerning the paramount feature of domestic and social life would be inestimable. It would draw under the exclusive cognizance of one legislature and one judiciary all questions affecting the conditions of marriage and divorce with the manner and effect of proving each. More, it would draw under the same cognizance, in a general sense, the distinction between monogamous and polygamous institutions, as importing either individual and national progress or individual and national apathy.

The amendment would inure as an authoritative notice to immigrants from every land that the United States are self-dedicated forever to the virtues of monogamy, and, not least, the amendment becoming a lesson in the common and higher schools of the States, would form and train the minds and morals of future generations in harmony with its spirit and reason.

MINING.

Mining is one of the most important industries of Utah—nay, of the whole intermountain region. Until recently, it was admittedly the principal factor of progress and improvement in the Territory. Certainly it has been the chief incentive to non-Mormon immigration to the Territory; it has served to stimulate the building of cities, towns, railroads, factories, and agricultural development. It gave remunerative employment to thousands of laborers; but all this is now changed. The mines are closed, their output of gold and silver, of copper, lead and iron is arrested, while, as a consequence, multitudes of laborers are left stranded in idleness and destitution. The condition of the mining region is indeed deplorable. The Commission speaks of the fact, but does not undertake to trace its controverted source.

IRRIGATION.

An urgent need of Utah is a scientific and comprehensive scheme of irrigation. Every waste of water needs to be avoided. As far as may be found practicable and advantageous the waters of the rivers, lakes, and mountain torrents should be made tributary to capacious and durable reservoirs for regulated distribution for all useful purposes.

PUBLIC LANDS.

Such a scheme appeals to the favor of Congress upon economic grounds. Upon such grounds the Commission ventures respectfully to recommend the cession of the unappropriated and unreserved public lands in Utah, under a compact guaranteeing the faithful application of the proceeds of their sale, or of interest or a tax thereon, in aid of irrigation.

Such a scheme applied to the intermountain region would render a greater area of it profitably productive than now exists in the six New England States. Moreover, followed by an influx of emigrants in predominating numbers from the old States, the Mormon imbroglio would soon finally be resolved. In fact, the shortest and surest way to put an end to that evil lies in such a scheme.

The advantage of irrigation has been conclusively demonstrated. Rainless Egypt affords a striking example. There a narrow strip of territory bisected by the Nile, containing less than 5,000,000 acres and annually irrigated by the overflow of that river, even now in Egypt's decay and despair affords the sustenance of its 4,000,000 occupants and cultivators, and an annual tax tribute of millions to Egypt's foreign creditors. Thus the portion of this strip occupied is as one acre and a fraction of an acre to each occupant. The fact seems incredible, yet it is well attested.

A. B. WILLIAMS, *Chairman.*
JOHN A. MCLERNAND.
R. S. ROBERTSON.
G. L. GODFREY.
HENRY C. LETT.

Hon. HOKE SMITH,
Secretary of the Interior,
Washington, D. C.

ANNUAL REPORT

OF THE

INSPECTOR OF COAL MINES OF UTAH.

CASTLE GATE, *March 4, 1893.*

To His Excellency ARTHUR L. THOMAS,
Governor of Utah:

SIR: In accordance with section 3 of an act of Congress entitled "An act for the protection of the lives of the miners in the Territories," I have, as inspector of coal mines of Utah, the honor to present herewith my first annual report. As I only commenced my duties as inspector on September 28, 1892, it has been with considerable difficulty that I have been able to get together the embodied statistics. Some of the coal companies have cheerfully furnished me with a full account of the production of their mines, others I have had considerable trouble in obtaining, while in a few cases I have been unable to get any statement whatever.

In my examination of the mines of the Territory I find that, with one or two exceptions, the mines have been worked in a very primitive and incompetent manner. In appointing a superintendent it appears in some cases as if he has been chosen, not because of his knowledge of coal mining, but because he was an influential friend of the most prominent shareholders, or he may have had a large amount of the shares himself. These men, as a rule, generally open out rooms as soon as the coal is reached (in one case the map has a great resemblance to a fan), and rooms are driven into one another, thereby leaving an insufficiency of pillars to support the roof. The pillars in these cases are generally in such a condition that they are irrecoverable, and thus thousands of tons of coal are lost to the mine-owners. Such a miserable apology for mining presents almost insurmountable difficulties in circulating a current of fresh air sufficient for the needs of the miner at the working face. The fact of the matter is that these mines are worked on no system, and the natural advantages presented in the joints of coal and roof are entirely disregarded, and the coal worked on a "come or I'll fetch you" method, with little or no attention devoted to the greatest production of lump coal and the least amount of screenings.

Not even in the opening of a coal mine has there been the slightest attention paid to the most elementary study of the geological structure of the coal field, and the result is that the mine is practically worked out when it should only have reached its maximum capacity, thus causing great loss to all parties concerned.

I am pleased to state, however, that there are exceptions to those methods, some companies have applied the latest and most scientific appliances and methods of working the coal; and have endeavored by all the means in their power to make their mines safe.

In closing, I may state that all the provisions of the laws will be faithfully and impartially enforced as far as it lies in my power.

I am, respectfully,

ROBERT FORRESTER,
United States Inspector of Coal Mines for Utah.

Production of coal in Utah Territory from 1880 to 1892, inclusive.

Year.	Tons.	Year.	Tons.	Year.	Tons.
1880	225,000	1885	213,120	1889	236,651
1881	225,000	1886	2 0,000	1890	318,159
1882	250,000	1887	180,021	1891	371,045
1883	250,000	1888	259,501	1892	*361,673
1884	250,000				

* Estimated. Have not received returns from all the mines yet.

Production of coal in Utah mines for 1892.

Name of mine.	Operator.	Amount.
		Tons.
Allan Hollow Mine	Chalk Creek Coal Company	806
Bear Canyon Mine	Bear Canyon Coal Company	*500
Castle Gate Mine	Pleasant Valley Coal Company	149,918
Church Mine	James Robinson	*1,000
Fairview Mine	Fairview Coal and Coke Company	370
Desert Mine	Deseret Coal and Coke Company	1,000
Deer Creek Mine	Deer Creek Coal Company	160
Edmunds Mine	Nathaniel Edmunds	*550
Grass Creek Mine	Gomer Thomas	2,900
Howard Mine	William Howard	145
Pleasant Valley No. 1	Union Pacific Coal Company	61,236
Thomas Mine	Thomas and Daniels	*1,000
Wales Mine	Central Pacific Coal and Coke Company	700
Wilson Mine	Wilson Brothers	3,530
Williams Mine	J. H. Williams	30
Wasatch Mine	Home Coal Company	39,278
Winter Quarters Mine	Pleasant Valley Coal Company	98,550
Total		361,673

* No returns received; output estimated.

Statement of coal filings in the Salt Lake Land Office, from the time of its opening in March, 1869, to the end of June, 1892.

	No.	Acres.	Amount.
March, 1869, to June 30, 1889, inclusive	981	122,720	$2,943
For the fiscal year ending June 30, 1890	78	9,360	224
For the fiscal year ending June 30, 1891	45	6,560	153
For the fiscal year ending June 30, 1892	39	5,480	117
Total	1,143	144,120	3,437

Statement of coal cash entries in the Salt Lake Land Office, from the time of its opening in March, 1869, till June 30, 1892.

	No.	Acres.
March, 1869, to end of fiscal year June 30, 1889	79	11,881.72
Fiscal year June 30, 1890	8	1,159
Fiscal year June 30, 1891	10	1,401.96
Fiscal year June 30, 1892	8	1,195.94
Total	105	15,629.62

COKE.

The coke industry in Utah is not very extensive. The first attempt to make coke was in Sanpete county, near the small town of Wales, where twenty Belgian Coppee coke ovens were built, and the experiments were carried on intermittently from 1857 to 1879. The Fairview Coal and Coke Company produced some coke in 1876, 1877, and 1878. Their coke was made in 11-foot beehive ovens and was hauled by wagon to Springville.

The next series of experiments to test the coking qualities of Utah coals were made by the Pleasant Valley Coal Company. The result of these tests was the erection of 80 beehive coke ovens at Castle Gate in 1889, since which time the company has continued to make coke, and is finding a fair market for its products in spite of the competition of Eastern coke.

FATAL ACCIDENTS.

September 7, 1892.—About 11 a. m., Richard Hunter, a miner in the Union Pacific Coal Company's No. 1 Pleasant Valley mine, was injured while at work in his working place. A piece of rock fell from the roof, striking him on the left side of the back and knocking him down on his face upon some loose coal. Two large slabs of rock fell upon his left leg and broke it a few inches above the ankle. At the time of the accident he was not considered to be fatally injured, but he continued to get worse and succumbed to his injuries at 7:30 p. m. on September 11.

November 8, 1892, at 3:45 p. m., Henry Hamel, a miner in the Pleasant Valley Coal Company's Winter Quarters, No. 2 mine, met his death while putting off a shot in his room. Hamel was firing a blast, and on account of his not giving the fuse full length to burn the shot went off before he had time to retreat to a place of safety, and about 3 tons of coal was thrown upon him.

NONFATAL ACCIDENTS.

May 24, at 11:45 a. m.—Gustave Widmark, a miner in the Pleasant Valley Coal Company's No. 2 Winter Quarters mine, while at work in his room was injured by a piece of rock (weighing about 100 pounds) falling from the roof and striking him on the head and right foot.

July 21, at 10:30 a. m.—William Martin, a miner in No. 2 Winter Quarters mine, had, along with his partner, just put off a blast in the face of his room, which did not knock down all the coal expected, and Martin was in the act of picking down the coal, partly loosened by the blast, when a piece of rock, weighing about 5 pounds, fell from the roof, striking him and fracturing the right tibia.

August 20, at 4:30 p. m.—George Mason (boy), a driver in Castle Gate mine, was getting on in front of the mine car when his foot slipped just as the mule started, and he was caught under the car, breaking his thigh before the mule could be stopped.

September 29, at 11:30 a. m.—John Ring, a miner in Castle Gate mine, received injuries to his back from the fall of rock while securing the roof of a part of his room that had become dangerous.

October 20, at 1:30 p. m.—John M. Jones, a miner in No. 2 Winter Quarters mine, was loading coal into a mine car, when a piece of coal and rock fell upon him, lacerating him on the back of the head and the left shoulder, and bruising him on the back, loins, and right foot.

December 5, at 4 p. m.—L. Yindars, a miner in No. 2 Winter Quarters mine, was standing on a ladder pulling a needle from a shot hole, when the ladder slipped, and he stumbled on the point of the needle, which punctured his abdomen.

December 13, at 10:30 a. m.—Nephi L. McLean, a miner in the Union Pacific Coal Company's Pleasant Valley mine, had his leg broken by the fall of a piece of coal, previously loosened by a shot fired by him.

December 27, 4:50 p. m.—Joseph Dumayne, a miner in No. 2 Winter Quarters mine, was putting up a prop, and to enable him to reach the roof he was standing on the top of a loaded mine car, when the coal on which he stood gave way and he fell, fracturing his arm.

December 31, 8:50 a. m.—John Beddoes, electric locomotive engineer in No. 2 Winter Quarters mine, was injured by the locomotive running off the track at a switch at head of the sixth dip. He was in the act of jumping off the locomotive when he was caught between the locomotive and the mine cars, causing a comminuted fracture of both bones of his left leg and dislocation of the ankle joint.

CASTLE GATE MINE.

[Inspected October 5, 6, and 7, and November 22, 23, and 24.]

This mine is located at the place of that name and on the line of the Rio Grande Western Railway, 108 miles from Salt Lake City. At the time of my visit there was an average of 150 men employed daily in the mine and producing for the time I have been in office an average of 440 tons of lump coal per day.

The mine is ventilated by a 25-foot Guibal fan making forty-five to fifty revolutions per minute and passing 43,000 cubic feet of air per minute through the mine, divided in three splits, as follows:

	Cubic feet.
First. Split for 95 men	22,000
Second. Split for 35 men	12,000
Third. Split for 20 men	8,000

The dust of this mine is very inflammable, and extra precautions have to be taken to provide for the safety of the workmen employed therein.

The dust is kept in a very wet condition by means of water pipes laid throughout the entire mine, and the water is taken to the working faces by a hose. Two men are employed at this work regularly.

On the intake airways there are vertical water pipes at regular distances, with a $\frac{1}{8}$-inch pet-cock on top. The water on emerging from those pet-cocks is struck in a horizontal direction by steam under a pressure of 30 pounds per square inch (escaping from a pet-cock of the same size), the water being blown into a fine spray and the most of it being taken up by the air passing along the gallery. On the outside the hygrometer frequently registers a difference of from 20° to 35° between the wet and dry bulb thermometers, and at a point 1,500 feet from the mouth of the mine the difference registered seldom exceeds 1°, while at the far end of the mine, 4,000 feet from the mouth of the mine, the air has been fully saturated for over a year past. There is occasionally a small feeder of carbureted-hydrogen gas struck, but it soon drains off. Standing gas has only been found once since the mine was opened, three years ago. A good supply of timber, suitable for props and cap pieces, is kept close to each and every working face in the mine.

To handle the coal economically there are two hoists of 45-horse power each located in the mine. The one on the main entry is at a point 3,000 feet from the mouth of the mine and drops the loads by gravity to the tipple distant about 4,000 feet from the hoist. The second hoist is located on one of the rise entries at a distance of 1,600 feet from the main entry. The coal is gathered to convenient central points accessible to either of the two hoists by mules.

The shots are fired at 8 p. m. each day by an instantaneous contact with a 220 volt electric current, and to prevent coal dust explosions Hercules No. 2 giant power is the explosive used. This is tamped with wet-wood pulp.

Altogether this is a mine in which no expense is spared to provide for the safety of the workmen, and methods are in daily use here which are not found in any other part of the mining world.

NO. 2. WINTER QUARTERS MINE.

[Inspected October 11 and 12 and December 22 and 23, 1892.]

This mine belongs to and is operated by the Pleasant Valley Coal Company, and has produced 571,438 tons of lump coal since 1886.

This mine, taken all through, is in very fair condition. The same attention is not given to the dust that is devoted to this company's Castle Gate Mine, however, the dust is not so inflammable, and the mine having a fire-clay floor, it would be inclined to heave under excessive watering.

The mine is ventilated by an 18-foot Guibal fan running at sixty revolutions per minute, and produces a current of 25,000 cubic feet per minute.

This is the most extensive mine in the Territory, and is still producing a fair share of the coal supply of Utah. The miners are paid 65 cents per ton of coal passing over a screen with bars one inch apart, and make on an average $22 per week.

The coal is gathered to two central points by mules, and from one of those places it is brought to the main haulage way by means of an electrical hoist. Then an electric locomotive takes the coal from the first central point and where the hoist leaves the loads and runs its train to the tipple. The locomotive at present operates a train of 17 to 20 cars, but is capable of handling successfully a train of 30 cars.

The vein has an average thickness of 11 feet and is worked on the room and pillar system—rooms 21 feet wide and pillars 29 feet thick. The coal is blasted off the solid, no undermining or cutting being done. When the rooms are driven their full distance the whole of the pillar is then taken out and the roof allowed to cave.

There have been frequent accidents in this mine, both fatal and otherwise, principally caused by rock falling from the roof and coal bursting from face and sides of the rooms. The escapement way only recently made comes to daylight about a quarter of a mile east from the mouth of the mine. The gallery from the present workings to the escapement way having a 45-foot fault to cross, a substantial ladder is put in the shaft, and the top of this shaft is fenced, so that all precautions are taken to prevent accidents. A second gallery is being rapidly pushed to completion to connect with the escapement way; it is separated from the last gallery by about 1,000 feet of natural strata.

The main entries have only 500 feet to go when they will reach the surface. A double shift has been put on, so that the surface should be reached about the month of April. This will serve as an escape-

ment way, and also an intake for the air; it will cut off about one-half of the friction the air current now encounters in its passage through the mine, and, what is more important, the fresh air will be delivered to the working places almost immediately after entering the mine, whereas, at present it has to travel nearly three-quarters of a mile before reaching the first working place.

UNION PACIFIC COAL COMPANY'S PLEASANT VALLEY MINE.

[Inspected October 10, 11, and 29, and December 19 and 21.]

This mine is operated and owned by the Union Pacific Coal Company, and was opened first in January, 1884, since which time there has been mined 543,322 tons of coal.

The system on which the mine is worked is what is known as the room and pillar system, rooms 21 feet wide and pillars 27 feet thick. The seam is 38 feet 6 inches in thickness and the rooms are worked 20 feet in height, leaving 6 or 8 feet on the roof. This is taken down when the pillars are drawn.

The mine is ventilated by a furnace producing an air current of 18,300 cubic feet per minute.

There is at times of low barometric pressure a quantity of carbon dioxide given off; but marsh gas, never.

The entries are large (10 feet square) and clean, and the dust created by the haulage of the coal to the outside is kept down by frequent and efficient sprinkling by means of a water cart.

The doors and stoppings throughout the mine are erected in a very substantial and desirable manner. The air by this attention is conveyed to the working places in sufficient quantities to dilute and render harmless any noxious gases that may be generated or given off throughout the mine.

That this is a very safe mine is borne out by the fact that during its eight years of existence only four props have bren used in the working places of the mine, and but one fatal accident (this accident occurred September 3, 1892).

The hauling is done exclusively by mules, and the maximum capacity of the mine is about 800 tons of lump coal per day.

On October 27 I was called to this mine on account of a gob fire having broken out in a part of the mine that could not be reached because of a cave of the roof. This section was walled in to prevent the access of fresh air to the fire.

WASATCH MINE.

[Inspected November 12, 1892.]

This mine and what has been known as the Crismon mine are operated by the Home Coal Company. These mines were opened in 1884, and the product finds a market principally in Salt Lake City and Park City as a domestic and steam fuel. The mines are connected by a three-rail track with the railroad. The coal bed is about 12 feet thick, the coal is tender, and makes 40 to 50 per cent of slack. An analysis of this coal is as follows:

	Per cent.
Ash	4.30
Fix carbon	46.37
Volatile matter	38.90
Water	10.32
Total	99.89

The coal at present is hoisted through a shaft, but a slope has been driven into the workings, and the company is now engaged putting in extensive top works of the most modern appliances; these are nearly finished. I prohibited the miners from riding up or down the shaft, there being a second opening about a quarter of a mile distant, that is more convenient. The water being pretty heavy, there are three Blake pumps operating under a vertical head of 135 feet and 835 feet on the slope. The coal is worked on the pillar system. The mine is ventilated by natural ventilation, aided by the heat of the steam line taken down into the mine for the pumps and hoisting engine that is hauling coal up the slope to the level of the shaft bottom. At the time of my visit I found the air distributed through the mine in three splits, which combined, gave 17,595 cubic feet of air per minute: First split, 6,923; second split, 6,470; third split, 4,202 cubic feet per minute. During 1892 the average daily force was 110 men.

WILSON MINE.

[Inspected November 14, 1892.]

This mine is situated about 3 miles northeast of the town of Coalville, and commenced to ship coal in November, 1891. A new slope was connected with the workings a day or so before I visited the mine, so that there is now an escapement way provided. At the time of my visit the coal was hoisted through a shaft 80 feet in depth, the whim used for hoisting being propelled by a horse. I am informed by Wilson Brothers (since I have been at their mine) that they have abandoned the shaft for hoisting purposes, and that all their coal is now raised through the slope. The coal vein worked in this mine is the same as that mined in the Wasatch mine. and of the same thickness. This mine depends on natural agencies for its air supply, which I am sorry to say was not so good as it might be. I have ordered them to install some method of bettering the condition of the mine so far as regards the air supply.

WALES MINE.

[Inspected October 18, 1892.]

This mine belongs to the Sanpete Valley Railroad, and is leased to contractors. The present contractor being Thomas D. Reese, of Wales. This coal occurs in the Wasatch group of the Tertiary, and is the only coal worked in Utah of that age.

Five miners are at present employed, and the mine produced, in 1892, 700 tons of coal.

This is the oldest coal mine in Utah. It was first opened in 1855 to supply the settlements with coal. In 1857 the first attempts to make coke from this coal were made, and experiments were continued intermittently till 1879. There have been eighteen ovens built on the Belgian Coppee system. Crushing and washing were resorted to without having the desired effect in coking for commercial purposes.

This mine has been worked in a very loose manner, and, in fact, no method has been followed in extracting the coal; the aim of the various contractors having been to get the greatest quantity of coal with the least trouble and expense without regard to the life of the mine.

The miners are dependent on natural ventilation for their supply of fresh air. On measuring the air I found 300 cubic feet per minute pass-

ing through the mine, but I fear this amount would be considerably reduced if measured during the heat of the day. The escapement way comes to the surface, 35 feet distant, from the mine mouth. Therefore, there is no escapement way as required by law.

THE THOMAS AND DANIELS MINE.

[Inspected October 20.]

This mine is owned and operated by H. R. Thomas and J. Daniels, and was purchased from the Government in October, 1890, and the patent was issued June 5, 1891.

This mine is situated on Six-Mile Creek, about 6 miles south of Manti City, the county seat of Sanpete County.

From the most reliable data I can obtain, the annual product of the mine will be about 1,200 tons.

At present there are five men employed, and at the time of my visit the owners were contemplating the engagement of more miners. This mine is very primitive in the method of working. There is but one opening to serve for intake, return, and escapement way.

During the early morning and before the sun was shedding its rays into the valley I found 300 cubic feet of air passing through the workings per minute. This amount would be very greatly reduced before the middle of the day.

I ordered some repairs to be done on the right-hand level. The signaling apparatus of this slope is very primitive and requires some improvement. From the foregoing it will be seen that the mine requires: (1) The making of an escapement way; (2) An improved ventilation, and (3) The signaling apparatus improved.

EDMUNDS MINE.

[Inspected October 20.]

This mine is located in the southeast corner of township 18 south, and range 2 east. As far as I can make out, this mine is either on Henry R. Thomas's filing or on Government land. I can not find a coal filing still in force or patented in this region except that of H. R. Thomas. This mine, so far as I can ascertain, produces 550 tons of coal per year, and gives employment to about four men for six months of the year. It has no escapement way and no provision has been made for ventilation, but, as the output does not reach the prescribed 1,000 tons per annum, I was powerless to order anything for the improvement of the mine. I suggested a second opening to be made for a return airway, and appealed to their humanity to have this done for the health of themselves and employés.

FAIRVIEW MINE.

This mine belongs to and is operated by the Fairview Coal and Coke Company. Operations were first commenced here in 1875. At that time eleven bee-hive coke ovens were built, and the coke produced was hauled by wagon to the smelters in Utah Valley. There are no statistics in existence by which the coke production may be ascertained, but it is computed that 1,000 tons per annum for three years was the product. Since that time the mine has been dependent on the sale of coal

to the settlements in Sanpete County for its development. The annual production is now 370 tons per annum. The mines employ two men for about six months of the year, and everything is under the management of Mr. Sumner J. Harkness, of Scofield. The vein is 11 feet thick and of an excellent quality, and had it been on the line of a railroad there is no doubt but it would have been a large producer.

DESERET MINE.

This mine is owned by the Deseret Coal and Coke Company, but is leased to Mr. Hans Carlston, of Fairview. The coal produced is all sold in Sanpete Valley. Owing to the altitude, 8,500 feet, and the amount of snow fall, the mine is only worked for six months of the year, and produces on an average about 1,000 tons of coal per annum. The coal stratum is 11 feet thick and occurs in the Laramie group of the Cretaceous.

There is no escapement way provided that complies with the requirements of the Federal laws, and for the return airway no air was passing. The connection between the airway and the workings is a small aperture 20 inches square.

I would suggest that a furnace or other means be employed to produce a current of air sufficient to comply with the demands of the law.

HOWARD MINE.

[Visited November 14, 1892.]

As the production of this mine does not reach the prescribed 1,000 tons per annum, nothing can be done with it. The mine is located about 2 miles a little southeast from Coalville, and two men and a boy are the working force. The air was so bad when I was there that I could not get my lamp to burn. There is no escapement way, no return airway, and no air current. It is a shame that men will work in such holes, and I think the law should be adjusted to take in all coal mines without respect to their production.

ALLAN HOLLOW MINE.

[Visited November 14, 1892.]

This mine is located about 1½ miles in a northerly direction from Coalville. The coal has only been reached about a week ago, and the owners are now busy getting the hoisting apparatus in place. This mine will produce quite a quantity of coal in the near future, and if competent men have charge of the opening work it will prove a valuable mine.

CHURCH MINE.

This mine is owned by Angus M. Cannon, and is one of the oldest coal mines in the Territory of Utah.

It is leased at present by James Robinson, of Coalville. The mine is located in Grass Creek Canyon. It is a drift mine, and the coal is worked on the room-and-pillar method. Six men and two horses com-

pose the working force. I have ordered them to clean up the escapement way and to place timbers wherever necessary. When I made my inspection there was plenty of air passing through the mine, but during the summer I fear the current will not be very strong.

WILLIAMS MINE.

This mine is also in Grass Creek Canyon, and was opened about twenty years ago, but was only operated for three winters. It was again opened this last winter and 30 tons of coal extracted.

GOMER THOMAS GRASS CREEK MINE.

The mine is leased from the Union Pacific Railway by Mr. Gomer Thomas. He employs 10 men, and has now got the slope down to a depth of 500 feet. There is a pump at the bottom of the slope pumping night and day, and as the water is lowered the slope is carried forward. The dip of the strata varies from 27° near the surface to 37° at bottom of the slope. The coal is mined on the room-and-pillar system—the rooms 20 feet wide. The coal is run down a chute into a battery at the mouth of the room, from which it is loaded into the mine cars, and then hauled to the surface by an engine. The coal is about 8 feet in thickness. There is an air current of 15,694 cubic feet per minute passing through the mine. An escapement way is provided, and is separated by 1,300 feet of strata from the mouth of the slope.

ELECTRICITY.

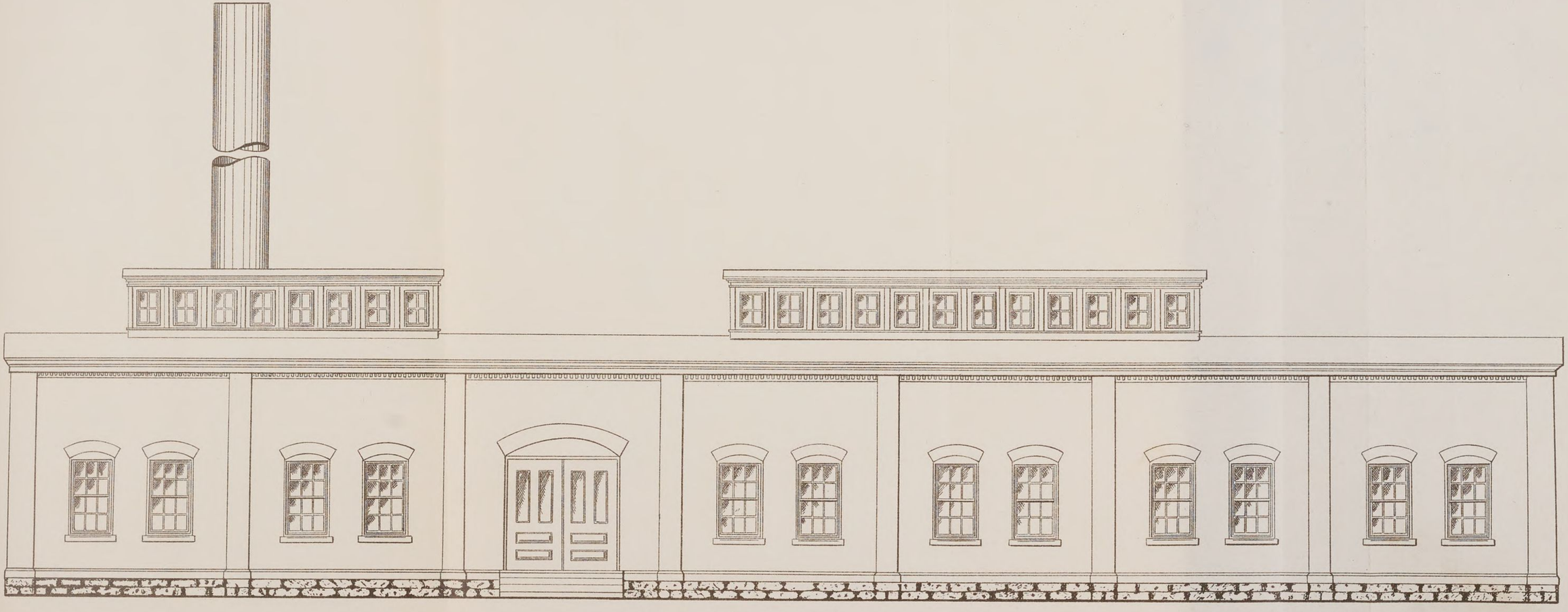
The remarkable progress made in the transmission of electric power for mine haulage is due to a great extent to the ability and enterprise of the Thompson-Houston Electric Company. This company, while among the first to make application of electricity to mining uses, is at present the only one devoting particular attention to the development of electric mining machinery.

The Thompson-Houston Electric Company has installed two electric haulage plants in this Territory for the Pleasant Valley Coal Company, one at the Castle Gate mine, and the other at the Winter Quarters mine. The Castle Gate plant is shown in Pls. I, II, III, IV, and V.

Pl. I shows the front elevation of Castle Gate power station. Pl. II shows an end view of the same. Pl. III is a plan of the power plant for Castle Gate mine. Pl. IV shows the generator used at Castle Gate for the generation of the electric current. Pl. V illustrates the electric hoists, two of which are in daily use in Castle Gate mine.

This power plant when completed will consist of nine generators of 80 horse power each, and one light dynamo of 25 arc light, driven by two Corliss engines, the driving wheel of the engine being 20 feet in diameter. The steam will be supplied from five 60-inch return tubular boilers (three being now in use.)

The current is developed by a series shunt generator. This generator maintains a constant electro-motive force or difference of potential, the current varying according to the requirements of the motors that are driven by it. As this automatic regulation of power output is independent of mechanical governors, and is entirely due to the action of the electric current in the fields and armature of the generator itself,



— FRONT ELEVATION —

POWER STATION — CASTLE GATE MINE

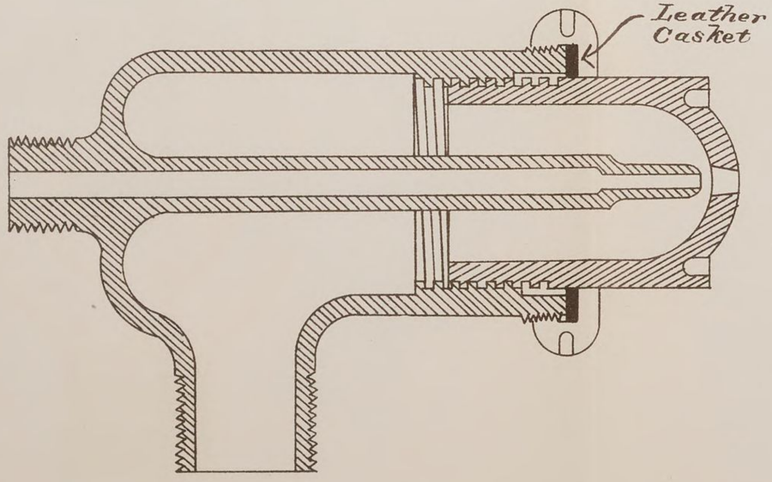
— PLEASANT VALLEY COAL CO. —
SALT LAKE CITY, — UTAH.

CASTLE GATE MINE
showing Water and Steam Line
Scale 3/4 in = 100 ft.

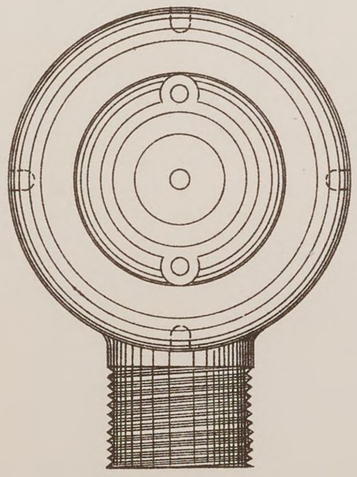
Note
Steam and Water Sprays ●
Steam alone Ⓢ
Water " W
Water pipes ----------
Steam pipes —·—·—·—

Line of burnt coal
5 Level off 6 Rise
4 Level off 5 Rise
4 Level off 6 Rise
3 Level off 5 Rise
4 Level off 8 Rise
3 Level off 6 Rise
3 Level off 5 Rise
2 Level off 6 Rise
3 Level off 8 Rise
8 Rise
1 Level off 5 Rise
1 Level off 6 Rise
2 Level off 8 Rise
1 Level off 8 Rise
9 Rise
10 Rise
Line of burnt coal
Level off 3 Rise
2 Rise Entry
3 Rise Entry
4 Rise
7 Rise
4 Rise
6 Rise
Lower Return Airway
Upper Return Airway
Main Entry
1 Rise abandoned
1 Dip Entry abandoned
2 Dip abandoned
3 Dip abandoned
3 Back Level Entry
1 Back Level Entry
2 Back Level entry

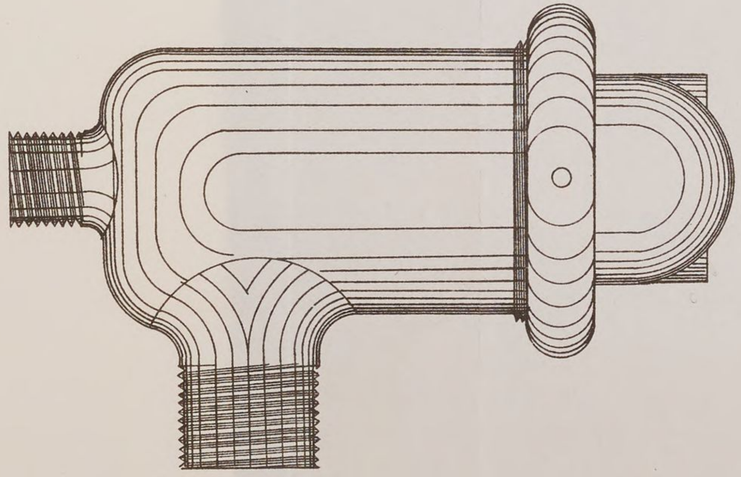
Designed by R. Forrester.



Section



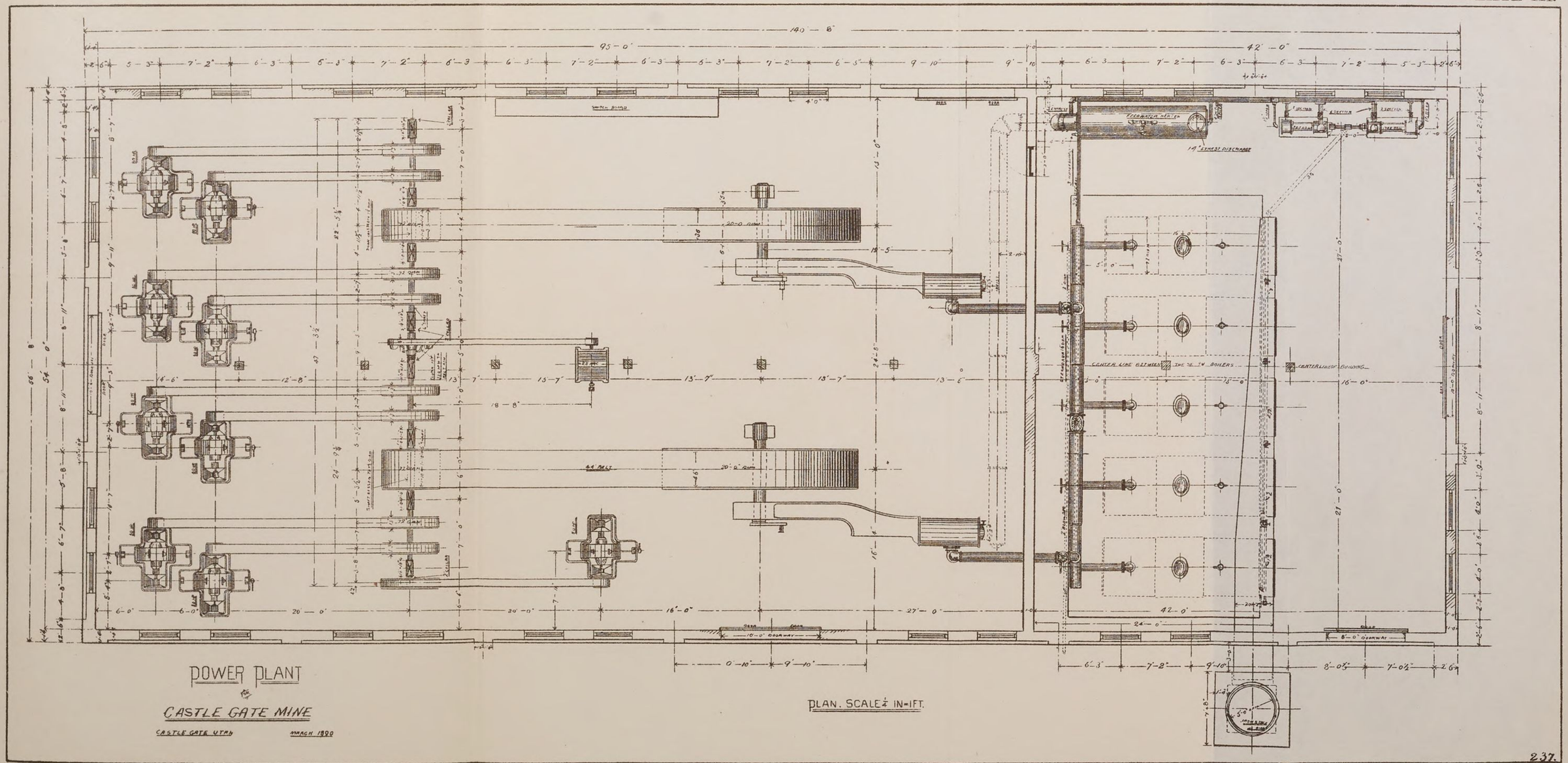
Front End View



Side View

FULL SIZE DRAWING of STEAM AND WATER-SPRAYS

Designed by R. Forrester.



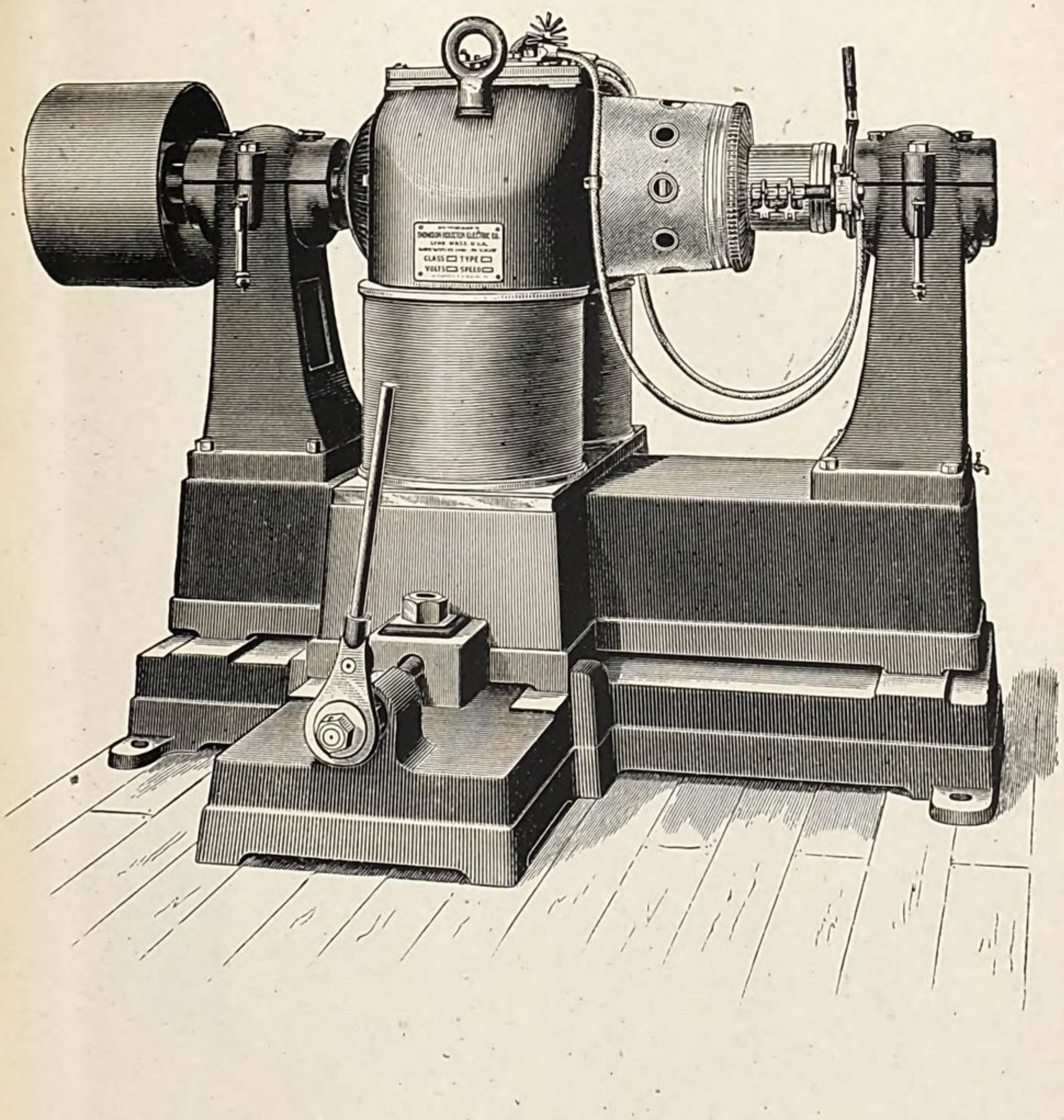
POWER PLANT

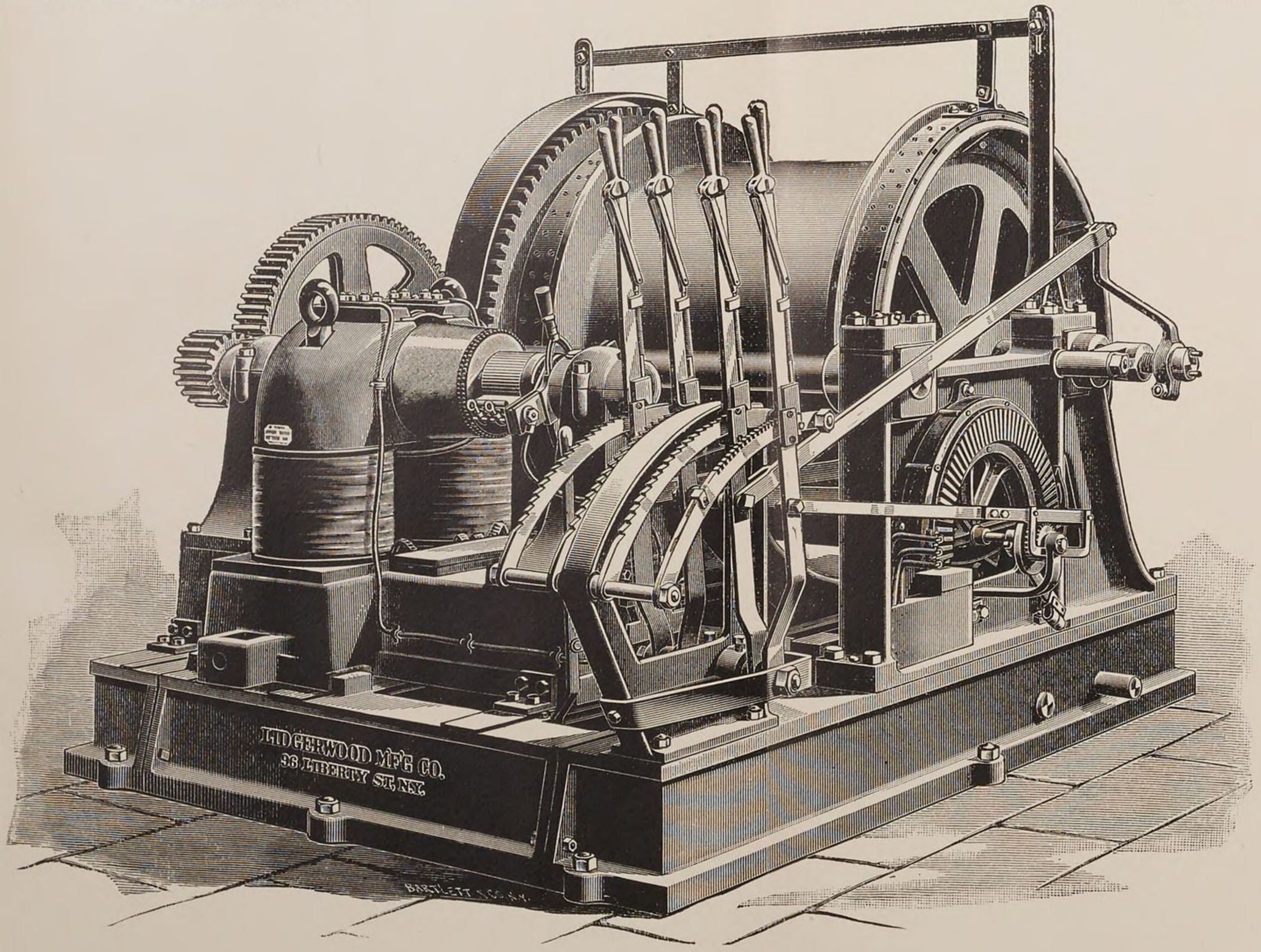
FOR

CASTLE GATE MINE

CASTLE GATE UTAH MARCH 1890

PLAN. SCALE ¼ IN=1FT.


THOMSON HOUSTON ELECTRIC CO.
CLASS TYPE
VOLTS SPEED


LIDGERWOOD MF'G CO.
96 LIBERTY ST. N.Y.
BARTLETT & CO. N.Y.

perfect and unvarying regulation giving a maximum of economy can always be depended upon. The series shunt winding of the generator causes it to respond instantly to the widest variations in the load without requiring any attention on the part of the engineer. This minimizes the labor required to operate the electrical apparatus and instantly supplies the power to the motors to meet any strains.

HOIST.

On Pl. v is an electric hoist specially designed for Castle Gate mine and which has proved very successful. The drum is mounted on a sleeve and is thrown into action with the large gear by a powerful friction clutch. Its speed when running independently is governed by two hand brakes which extend around nearly the entire circumference of the drum. The hoist is equipped with five controlling levers, as shown on Pl. v. One operates the rheostat contact, one the drum clutch, two are brake levers, which are entirely independent of each other, and the last throws the reversing switch, giving the drum when thrown into action with the motor positive motion in either direction. The controlling levers are all within easy reach of the operator. The gears and pinions are furnished with guards. The motor has self-oiling bearings.

One of these hoists is located nearly 4,000 feet from the tipple and 3,000 feet from the mouth of the mine. The average grade from the mine mouth to the hoist is 4.9 per cent in favor of loads, and from the mouth of the mine to the tipple it will be about 15 per cent, also in favor of the loads. Trains of twelve large mine cars (a car loaded weighs about 4,400 and when empty 1,400 pounds) run out of the mine by gravity, dragging the tailrope behind them, and the empty trains are hauled back into the mine by the hoist illustrated.

This hoist is 45-horse power, with a drum 48 inches in diameter by 36-inch face, and having a capacity of 3,000 pounds at the rate of 500 feet per minute.

The second hoist is located on a side entry, about 1,500 feet from the main entry. This entry has an average grade of 10 per cent in favor of the loads. This hoist operates a train of 6 mine cars. As this hoist is exactly similar to the one just described, it will not be necessary to go further into details.

The operation of these two hoists has proved so satisfactory, as well as economical, that the company is intending to put in a large double-drum hoist on the main entry, with a capacity of 3,000 pounds, at a speed of 1,000 feet per minute. As the load going down will help the motor in hauling up the empties, I am sure that this hoist will prove much more economical than those now in use.

WINTER-QUARTERS PLANT.

This plant consists of a Reynolds engine and a Thompson-Houston generator wound for a current of 220 volts potential (shown on Pl. IV), with the appliances necessary for its operation.

The engine and boiler room is situated several hundred feet away from the mouth of the mine, and is in charge of an engineer.

The current is conveyed to the mine and is carried overhead along the gallery, a little to the right side of the track, and is suspended from a patent insulator designed especially for mine work. This clamp-

ing ear and method of attaching to roof is shown in Pls. VI and VI*a*. The rails are used as conductors for the return current, being connected by a copper wire wedged into a hole drilled into each end of the rails. Part of the current is utilized for lights at switches and other points.

The locomotive is of 40-horse power, and built for a 36-inch gauge, and has proved to be particularly well adapted to the work required.

An ingenious trolley arm is used, which, unlike the arm on the street railroads, requires no attention when the locomotive is reversed. This trolley arm is so constructed that it will adapt itself to wide variations in the position of the wire, and though it should jump from the wire while the locomotive is in motion, it runs but a small chance of being damaged, as its construction allows it to respond very quickly to any pressure that it may encounter in the irregularity of the roof.

The following is a record of a day's test of the work of this locomotive:

Distance of round trip (including sidings at each end) ..... feet..	5,284
Average time of round trip (including stop at foot of 4½ per cent grade to take out sprags ..... minutes.	10
Number of cars per trip	19
Trips per day	30
Miles run per day	30
Total running time ..... hours..	5
Delay due to cars getting off the track at foot of 4½ per cent grade ..... do....	1¼
Time waiting for coal, waiting for empties, and other time not occupied in running	3¾
Tons of lump coal hauled	624
Tons of screenings hauled	125
Tons of waste hauled	35
Total tons hauled	784

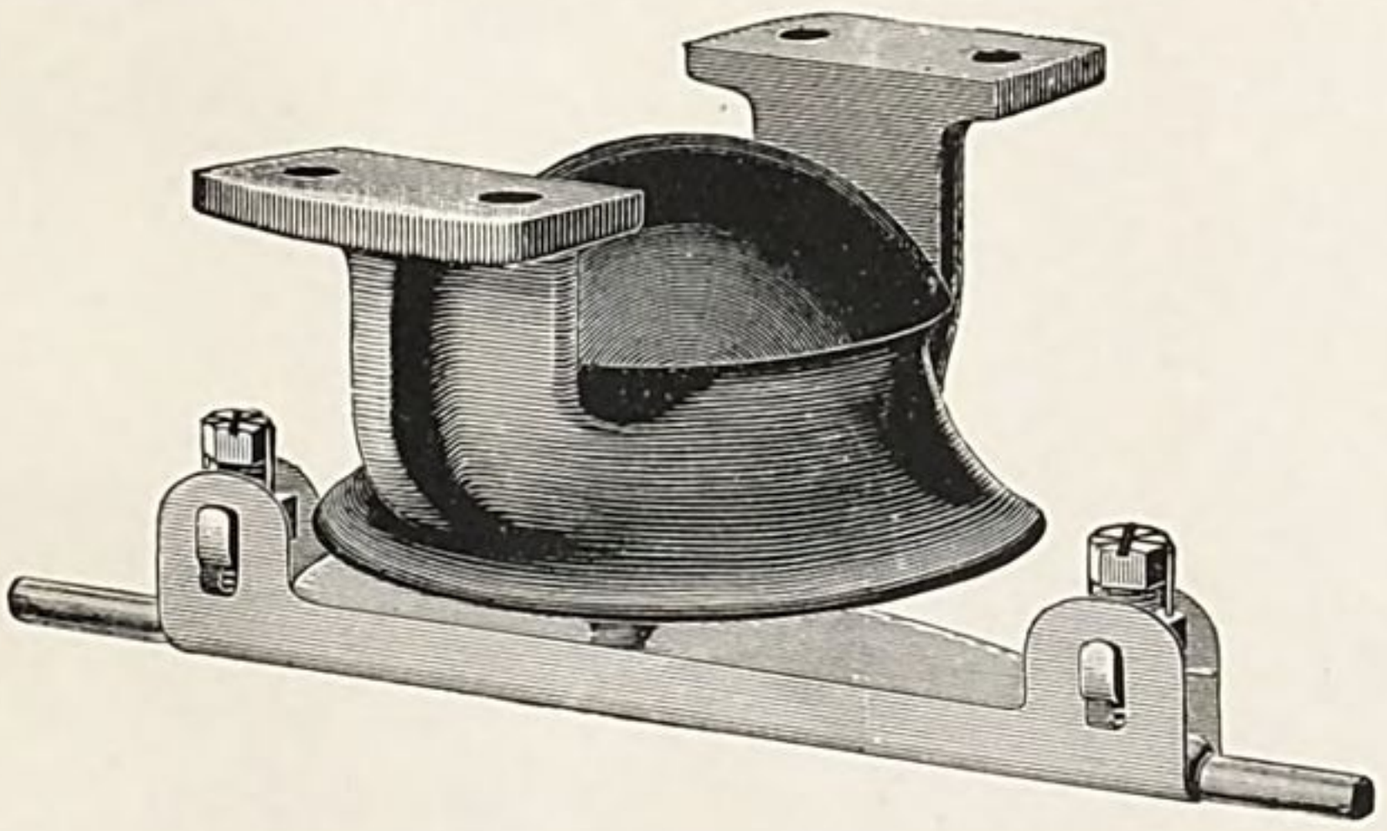
This work, before the electric plant was installed, would have required seven mules and six drivers; and of course the cost per ton would have increased as the output increased. On the other hand the locomotive can handle an increase of 30 per cent without increasing the working force, so that the total cost would decrease to that extent.

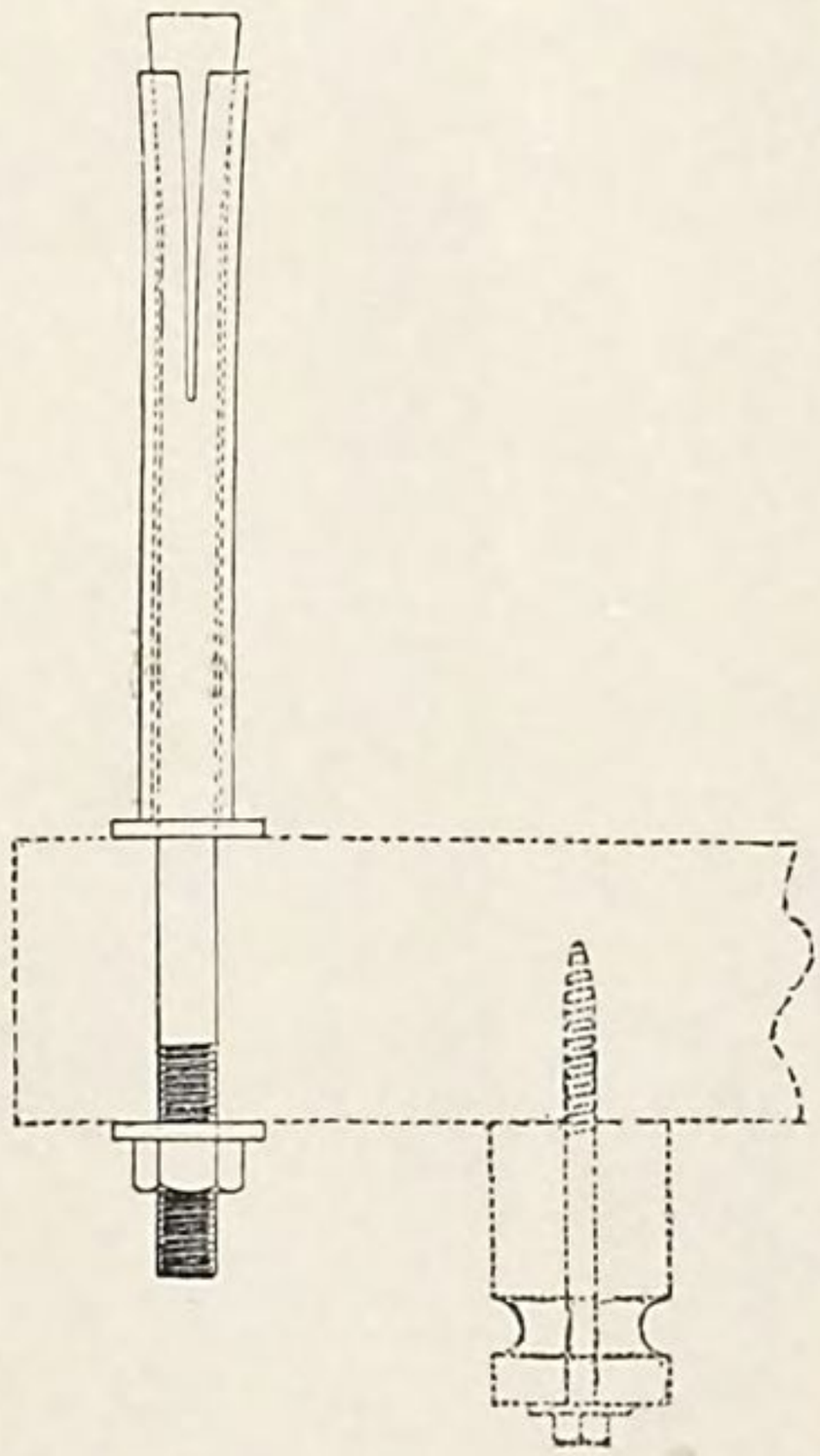
The locomotive can easily take 30 empty mine cars (weighing 1,200 pounds each) up the 4½ per cent grade, at the rate of 6 miles per hour; while on the level it sometimes attains a speed of 12 miles per hour.

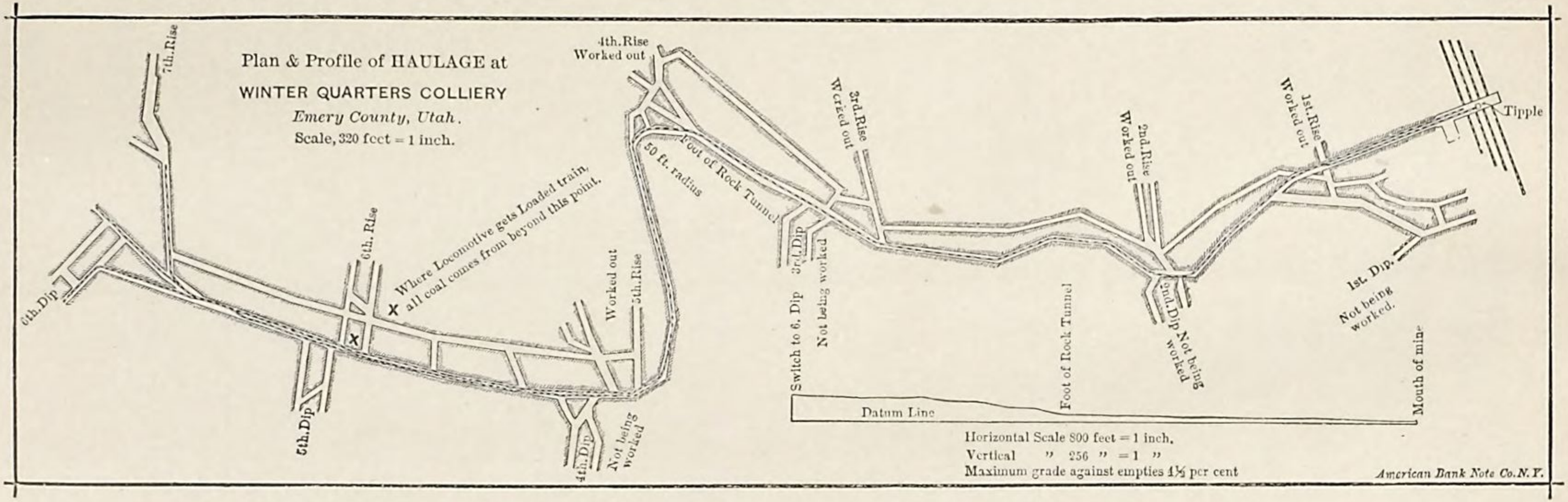
This plant, together with that at Castle Gate, illustrates in a graphic manner the flexibility of electricity as a means of haulage in mines.

By referring to Pl. VII it will be seen that the haulage road of the Winter-Quarters Mine is extremely tortuous, and it would be almost impossible to successfully install and operate a tailrope or endless rope haulage. In rope haulage, as the loss of power in transmission increases as the distance from the source of power increases the limit of its use is soon reached.

The same may be said of the compressed-air systems of haulage. On the other hand the most successful application of electricity to mining is that of long distance transmission of power. The central generating station may be placed at any convenient point where fuel or water power is most convenient. The introduction of electricity in these operations secures greater flexibility of power, since it can be divided into smaller units. The same wires which supply power to the locomotive or hoist may be utilized to furnish power for pumping, drilling, ventilating, etc. The necessity for a separate and expensive plant for each of these uses is removed by combining all in one.






Plan & Profile of HAULAGE at
WINTER QUARTERS COLLIERY
Emery County, Utah.
Scale, 320 feet = 1 inch.
7th. Rise
6th. Dip
6th. Rise
Where Locomotive gets Loaded train, all coal comes from beyond this point.
X
X
X
5th. Dip
Worked out
5th. Rise
4th. Dip
Not being worked
4th. Rise
Worked out
50 ft. radius
Foot of Rock Tunnel
3rd. Rise
Worked out
3rd. Dip
Switch to 6. Dip
Not being worked
Foot of Rock Tunnel
2nd. Rise
Worked out
2nd. Dip
Not being worked
1st. Rise
Worked out
1st. Dip.
Not being worked.
Tipple
Mouth of mine
Datum Line
Horizontal Scale 800 feet = 1 inch.
Vertical " 256 " = 1 "
Maximum grade against empties 1½ per cent
American Bank Note Co. N. Y.

A DESCRIPTION OF THE METHODS EMPLOYED IN LAYING THE DUST AND FIRING THE SHOTS IN CASTLE GATE MINE.

There is still a great diversity of opinion among mining authorities as to the part played by coal dust in colliery explosions. Some hold that coal dust, in the absence of fire damp, is explosive, while others maintain that coal dust, in the absence of fire damp, is comparatively harmless. Nearly all agree that it is explosive with quantities of fire damp that would be harmless and nonexplosive if the coal dust were not present. Various plans have been tried during the last six years to lay the dust of coal mines. In some cases pipes have been laid along the galleries of the mine, and cocks, to which a hose could be attached, were placed at regular distances apart. By this means the roof and sides could be thoroughly washed. Efforts were then tried with stand pipes, perforated so as to allow of the escape of the inclosed water in a fine spray. The objection to this method was the liability of water to collect in the vicinity of the stand pipes, and in mines having fire-clay floors this water had a tendency to cause the floors to heave. The effect of passing compressed air through the water pipes has been tried and reported on favorably. However, as very few mines have an air-compressing plant, this would prove, in most cases, too expensive for general adoption. Another serious objection to this system is as follows: The air when undergoing compression gives out its latent heat, and when it escapes again it rapidly absorbs heat from the surrounding air and thereby reduces the temperature in its vicinity to considerably below the freezing point, as may be seen by the formation of ice around the exhaust pipe of a compressed air engine. The result of this cooling effect on the air is to bring the temperature of the air current temporarily lower and nearer the dew-point for the moisture it already has absorbed.

This will simply prevent the air from taking up the quantity of water that the temperature of that part of the mine properly calls for, so that whenever the air current has passed the last spray it is still greedy for water, and to satisfy its demands it absorbs what may have been sprinkled on the galleries to lay the dust. This is exactly the reverse of what is desired to be accomplished by these sprays.

Attempts to counteract this action of the air current, as well as to help to retain the moisture in the coal dust, have been tried by the use of hygroscopic or deliquescent substances, such as rock salt, calcium chloride, etc. The amount of rock salt which has been found necessary for maintenance of the dust in a sufficiently moist condition to prevent its flying is nearly 3 pounds per square foot of surface, applied weekly. In an extensive mine, distant from salt-producing districts, this would be an item of considerable importance to the mine operator, and by the fact that these substances are not of any use in mines of high temperature, there must be a point when the power of the air to retain its moisture is greater than the power of absorption of the deliquescent salt to extract the water from the air. The determination of the temperature and relative humidity of the atmosphere, when the hygroscopic action of the deliquescent salts is powerless to extract moisture from the air, would be very interesting, and would also indicate to what extent those substances are suitable for the purposes to which they have been applied in mines. By reference to "Accidents in mines and their pre-

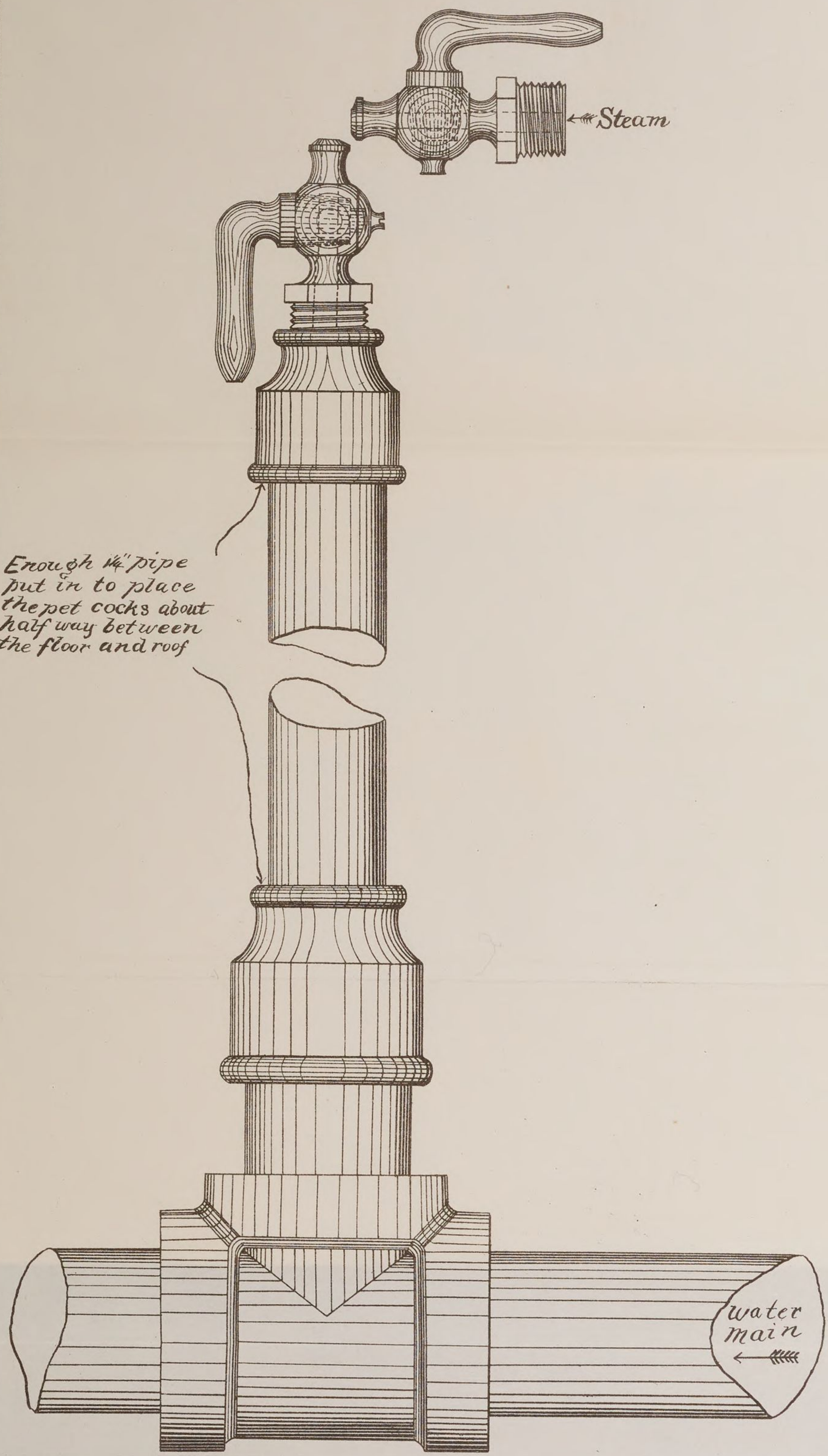
vention," it will be seen that steam has been turned into the in-take airway of a mine, and is reported as being sufficient for spring, summer, and autumn, but insufficient for winter. Winter, we find, is the hardest period of the year in which to keep down the dust.

In the experiments of Castle Gate mine the work of the sprays was proved by a daily record of four hygrometers placed in different parts of the mine, and one on the outside of the mine. (A difference of 40° has been recorded on the outside, and a difference of 20 to 30° is quite common.)

Water pipes are laid along each gallery of this mine (see map) to convey water to all parts of the workings, and after trying perforated standpipes and mechanical spraying devices, invented for the purpose of spraying water on lawns, etc., supplemented by two men sprinkling with the hose, it was found there was still a great difference between the wet and the dry bulb thermometers, and it proved almost an impossibility to keep the dust moist.

Prof. James T. Gardiner then proposed the use of steam and water. The result of this suggestion was the development of the spray shown in Pl. 8. This is made by placing standpipes at distances of about 200 feet apart. These standpipes reach about halfway between the floor and roof; and on top is a $\frac{1}{8}$-inch petcock, allowing the water to escape vertically. On the water emerging from this petcock, it is struck in a horizontal direction by steam escaping from a cock of the same size, and under 30 pounds pressure. The force of the steam drives the water into a very fine spray; in fact, the water is almost "atomized." This method was found to do the work admirably, and had practically no blinding effects, as had at first been feared. Now, two years after the introduction of the steam and water sprays, with four times the amount of ground opened, these two men are still able easily to keep the mine in a thoroughly wet condition, so much so that it is impossible to find a handful of dust in any part of the mine that is not saturated with water.

By referring to the accompanying table it will be seen that these sprays have done the work expected of them in an excellent and efficient manner.



DRAWING OF STEAM & WATER-SPRAYS

CASTLE GATE MINE

Drawn by R. Forrester.

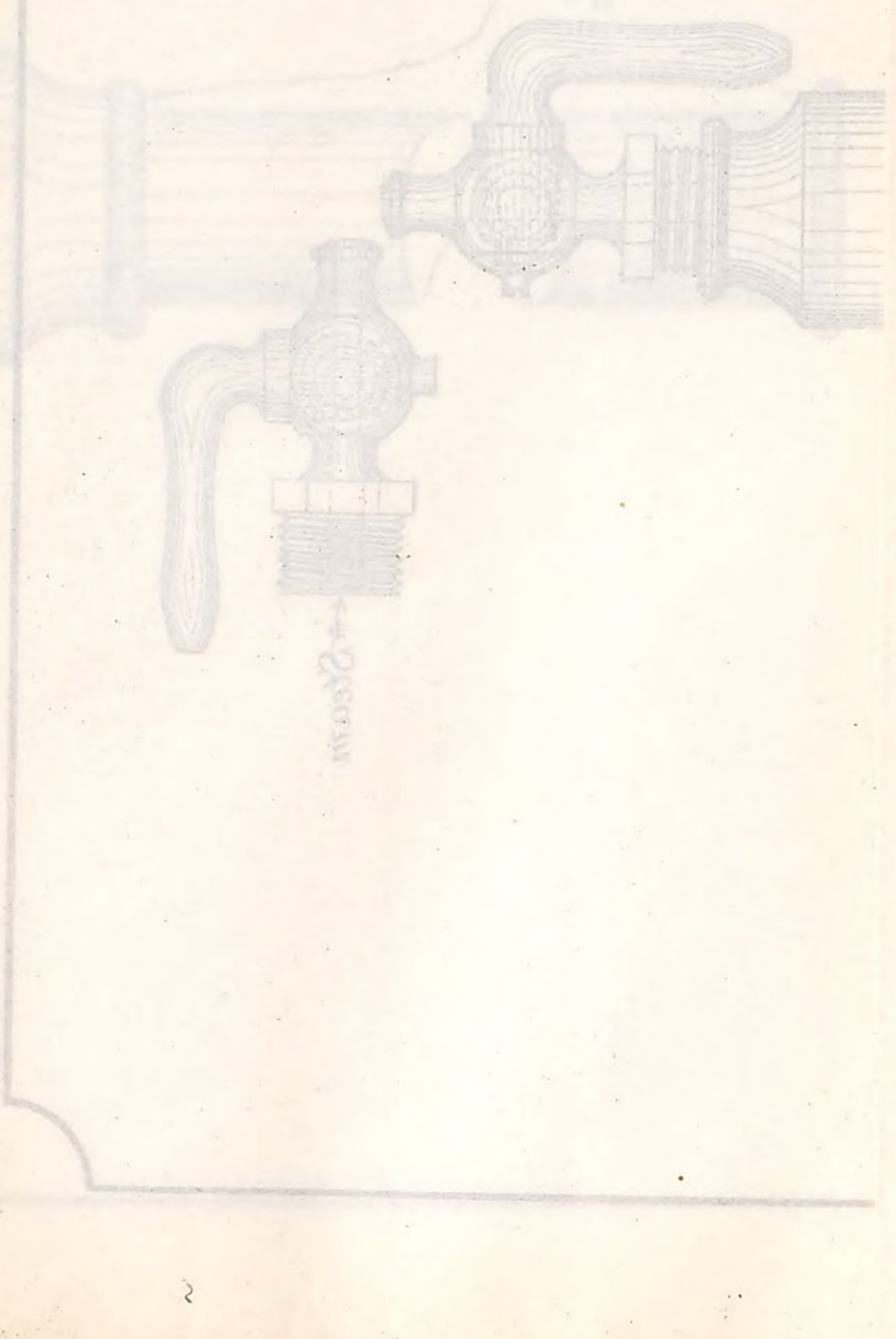


Table showing relative humidity, dew point and grains of water per cubic foot of air on outside and inside of Castle Gate mine for 1892.

Months.	Outside.					1,500-foot station.					4,000-foot station.				
	Dry bulb.	Wet bulb.	Dew point.	Relative humidity.	Grains of water in a cubic foot of air.	Dry bulb.	Wet bulb.	Dew point.	Relative humidity.	Grains of water in a cubic foot of air.	Dry bulb.	Wet bulb.	Dew point.	Relative humidity.	Grains of water in a cubic foot of air.
				P. ct.					*P. ct.*					*P. ct.*	
January	27.00	24.00	18	64	1.217	35.00	34.50	33	95	2.194	61.00	61.00	61	100	5.941
February	37.00	32.00	24	57	1.550	38.00	38.00	38	100	2.646	61.00	61.00	61	100	5.941
March	44.00	36.00	24	43	1.550	40.00	40.00	40	100	2.849	61.00	61.00	61	100	5.941
April	51.00	39.50	22	31	1.430	42.00	42.00	42	100	3.064	61.00	61.00	61	100	5.941
May	64.00	49.50	34	32	2.279	50.00	49.50	49	97	3.936	61.00	61.00	61	100	5.941
June	79.00	58.00	40	25	2.849	54.00	53.00	52	94	4.372	62.00	62.00	62	100	6.142
July	84.00	63.00	49	29	3.936	58.00	58.00	58	100	5.371	62.00	62.00	62	100	6.142
August	81.00	61.50	48	32	3.800	57.00	57.00	57	100	5.191	62.00	62.00	62	100	6.142
September	74.50	57.00	42	32	3.064	55.00	54.50	54	97	4.685	62.00	62.00	62	100	6.142
October	52.50	41.50	27	35	1.743	48.00	48.00	48	100	3.800	62.00	62.00	62	100	6.142
November	36.50	30.50	20	47	1.321	41.00	41.00	41	100	2.955	62.00	62.00	62	100	6.142
December	26.50	23.50	17	64	1.169	36.00	35.50	35	96	2.366	62.00	62.00	62	100	6.142
Sum	657.00	516.00	..	.....	.....	554.00	551.00	..	.....	.....	739.00	739.00	....	.....	.....
Mean	54.75	43.00	29	37	1.884	46.16	46.00	46	98.44	3.539	61.5	61.5	61.5	100	6.041

In making out this table, the daily record of the hygrometers in the mine, and also the one on the outside of the mine, was taken for each month, and the mean for the wet and dry bulb thermometers was computed separately. The grains of water per cubic foot of air were calculated in proportion to the vapor pressure at the monthly mean temperature. From a reference to the table it will be seen that the mean amount of water in a cubic foot of air for the year, on the outside of the mine, is equal to 1.884 grains, and the mean amount at a point 4,000 feet inside of mine is 6.041 grains, making 4.157 grains of water per cubic foot of air to be taken up before the air current reaches the 4,000-foot station. The air current of this mine amounts to a volume of 43,000 cubic feet per minute, so that the water required for the air before it reaches the above point in the mine is equal to 25.535 pounds avoirdupois per minute. This gives the rather startling figures of 18.385 tons (of 2,000 pounds) of water per day (twenty-four hours), required to saturate the ventilating current of Castle Gate mine.

The principal difficulty with the steam and water spray now used in Castle Gate mine is this: A slight accident displacing the petcock of either the steam or water pipe, say one-sixteenth of an inch, allows one-half of both steam and water to escape without doing its full duty. This condition continuing for a short time causes an excess of water to accumulate in the vicinity of the spray. This was the very objection raised against the pertorated standpipes. To correct this difficulty the spray shown on Pl. 9 was devised, and seems after about a four-months' trial to do its work well. This device is somewhat similar to the apparatus used for spraying petroleum with steam for firing purposes. It consists of two nozzles, the one for the steam being inside the one for the water. By turning the water nozzle the water supply can be so regulated as to give the best results, and when screwed full back it is capable of cutting off all the water.

It is necessary to make this apparatus of brass, as when it is made of iron the formation of rust on the threads and round the nozzle pre-

vents the proper working of the device. By consulting some of the hardware catalogues articles may be found which, by the aid of a handy blacksmith, may be made to do good service, thus doing away with the special prices for casting, which otherwise would be necessary. This spray has done the work required of it in an excellent manner, and is a decided improvement on the design on Pl. 8.

By the adoption of this spray the collection of water round the nozzle has been stopped, and the steam is more intimately mixed with the water. This object being obtained, the sprays may be placed farther apart, so that by this device fewer sprays are needed and the work is done in a more satisfactory manner.

The whole difficulty of the matter lies in the fact that unless the ventilating current can be supplied with sufficient moisture, as its temperature increases during its passage throughout the mine, so much the more difficult will it be to keep the dust of the mine wet except at an excessive cost for watering.

The superiority of the steam and water spray over that of any other is apparent, when it is remembered that as the temperature increases so does the demand of the air increase for an additional supply of moisture.

The steam has a tendency to raise the temperature locally, and by providing an abundant supply of moisture, in the most favorable condition for absorption, the air is not only saturated in a short distance, but it will carry the infinitesimal particles of water mechanically to a distance determined by the size of the particles and the velocity of the air current. That the air carries this water mechanically is evident, and the proof is apparent from the fact that during the winter, when the air is colder than the surrounding strata, water is deposited to a small extent on the objects it comes in contact with.

In addition to the above vigorous and efficient methods employed to keep down the dust of Castle Gate mine, shot firing is not lost sight of. The dust of this mine is very inflammable. When first opening the mine the inflammable character of the dust, in the absence of fire-damp, was very forcibly illustrated by the frequent dust explosions. In fact, an explosion could be counted on with every blown out black powder shot, and before the face of the main tunnel was 200 feet from the surface, there were several explosions in one week. As a proof that this coal dust is explosive, in the entire absence of fire-damp, I may mention an explosion that happened in the crusher house outside the mine, and situated about 700 feet away from the mouth of the mine. This explosion was caused by a boy accidentally dropping a naked lamp into the fine coal dust covering the floor and other parts of the building. The flame filled the entire house, and the boy was severely burned. The frequent occurrence of explosions forced the mine officials to adopt means for their prevention. After a careful study of the subject, it was decided to try high explosives. Hercules No. 2, containing 40 per cent nitroglycerine, was employed.

This explosive was adopted in accordance with the precautions suggested by the English commission, appointed to inquire into accidents in mines and their prevention. These precautions are best given in their own words:

> With the view of promoting security from accidents under circumstances when blasting may be practiced in coal mines we would recommend that the following instructions be observed:
>
> (1) That all work involving blasting in mines should be intrusted only to experienced workmen.

(2) That, in order to lessen the risk from blown-out shots, particular care should be taken that each shot should be assisted by undercutting and nicking or shearing whenever it is practicable.

(3) That the tamping, stemming, or ramming should consist of very damp or non-inflammable material.

(4) That, where strong tamping is needed, the compression of air at the bottom of the hole should be avoided by pushing in the first part of the tamping in small portions.

(5) That, where safety lamps are used, and powder is employed, the shots should be fired only by specially appointed shotmen, who, before firing the shots, shall satisfy themselves that the foregoing instructions are observed, and shall also satisfy themselves, by carefully examining all accessible contiguous places within a radius of 20 yards of the shots to be fired, that fire damp does not exist to a dangerous extent.

The employment of the ordinary miner's fuze, which, when burning, is liable to allow fire to escape from its extremity or laterally into the atmosphere, should not be permitted in any mine workings when the exigencies of safety dictate the exclusion of powder and the substitution for it of one or other of the "high" explosives in conjunction with water.

Similarly no description of mining fuze, however safe in itself, should be allowed to be ignited in such localities, by means either of a lamp flame, or of a wire which has been made red hot by inserting it into the gauze of a safety lamp, or by means of any other resource of fire, which, when applied to the lighting of the fuze, must come into contact with the atmosphere of the mine.

Electrical exploding appliances present very important advantages from the point of view of safety, over any kind of fuze which has to be ignited by the application of flame to its exposed extremity, as the firing of shots by their means is not only accomplished out of contact with air, but is also under most complete control up to the moment of firing. Their simplicity and certainty of action have been much increased of late years, while their cost has been greatly reduced, and but little instruction is now needed to insure their efficient employment by persons of average intelligence.

For the foregoing reasons the use of electrical arrangements for firing shots in mines, where the employment of powder for blasting is inadmissible, should be encouraged as much as possible.

To encourage the introduction of this high explosive, the workmen were supplied, free of cost, with their daily requirements, for four days, (see table showing depth of hole, the amount of Hercules No. 2 powder used, and the amount of black powder the workmen would have placed in the hole had they been using that kind of powder). It will be seen by the table that the miners were reducing the quantity of powder for the same amount of work.

Soil was taken into the mine and placed at convenient places for the workmen to use as a tamping for their shots. This was to discourage the use of coal dust as a tamping material. From this time shots were only fired once a day, and that after the workmen had gone home.

March, 1889.

Location of shots.	Date and time fired.	Length of hole.	Pounds of Hercules No. 2.	Pounds of black powder required.
Main entry	Thirteenth, 12 p. m	2.0	0.46	1.5
Do	do	3.5	0.69	2.0
Back entry	do	3.0	0.69	2.5
Do	do	3.5	0.69	2.5
Do	Fourteenth, 6 a. m	3.5	0.57	2.0
Do	do	3.5	0.57	2.0
Cross cut	do	4.0	0.54	1.5
Do	do	2.75	0.54	1.5
Do	do	2.5	0.54	1.5
Main entry	do	3.5	0.69	2.0
Do	do	2.5	0.69	2.0
Do	do	2.0	0.46	1.5
Back entry	do	3.0	0.80	3.0
Main entry	Fourteenth, 10 a. m	3.5	0.80	2.5
Cross cut	do	3.5	0.57	2.0
Back entry	Fourteenth, 12 noon	2.5	0.92	3.0
Cross cut	do	2.5	0.69	2.5
Do	do	2.0	0.69	2.5
Do	do	4.0	0.69	2.0
Do	Fourteenth, 6 p. m	3.33	0.69	2.0
Main entry	do	3.5	0.57	1.75
Do	do	2.75	0.69	2.0
Back entry	do	3.0	0.69	2.0
Do	Fourteenth, 12 p. m	3.0	0.80	2.5
Do	do	3.5	0.80	2.5
Do	do	3.5	0.69	2.0
Main entry	do	2.5	0.69	2.0
Do	do	2.0	0.46	1.0
Do	do	2.75	0.46	1.5
Cross cut	do	2.25	0.57	2.0
Do	do	3.50	0.46	1.5
Do	do	2.50	0.57	2.0
Do	Fifteenth, 4 a. m	2.00	0.23	1.0
Do	do	2.00	0.23	1.0
Do	do	3.75	0.69	2.0
Main entry	Fifteenth, 6 a. m	3.00	0.80	2.5
Back entry	do	3.50	0.80	2.5
Do	do	2.50	0.69	2.0
Main entry	do	2.00	0.35	1.5
Do	do	3.00	0.35	1.5
Do	Fifteenth, 12 p. m	3.16	0.46	1.5
Do	do	3.00	0.46	1.5
Do	do	3.50	0.46	1.5
Back entry	do	3.00	0.92	3.0
Do	do	2.50	0.69	2.0
Main entry	Sixteenth, 3 a. m	2.00	0.23	1.0
Do	do	2.33	0.69	2.0
Do	do	2.50	0.69	2.0
Do	Sixteenth, 6 a. m	2.25	0.34	1.5
Do	do	2.50	0.57	1.75
Back entry	do	3.50	0.80	2.0
Do	do	3.00	0.80	2.0
Total			30.68	100.00
Average			0.59	1.92

The shot-firer went into the mine between 6 and 7 p. m. with a hand dynamo, and fired eight or ten shots at a time, then eight or ten more from a station farther on, and so on till all the shots were fired. This method worked well for over a year; but in December, 1890, a most disastrous explosion occurred, by which three men (all the men that were in the mine at the time) lost their lives and much damage was done to the property.

This explosion originated in a blown-out shot of Hercules No. 2 powder, fired in a cloud of dust raised by previous shots.

The face of the main entry by this time was over 3,000 feet from the surface and under about 1,500 or 2,000 feet of cover. Up to the time of the explosion and for a long time afterwards no standing gas had been seen; but during the next year (1891) a very little gas was found

in drill holes, the quantity being so small that it could not be detected by a safety lamp, and it was only by putting a naked light to the hole that it could be detected at all.

After this explosion the following improvements were instituted:

(1) The simultaneous firing of all the shots by electricity from a point outside the mine.

(2) The use of wet wood pulp for tamping.

(3) The keeping of the coal dust throughout the mine, together with the ventilating air current, saturated with water.

(4) The employment of four men to inspect the mine daily for dust and gas.

(5) The checking of the workmen into and out of the mine.

All the shots are fired at the same instant, from a point outside the mine, by an instantaneous contact of an electric current of 220 volts. The shots are coupled in series by the miners before leaving their work for the day. Since commencing to shoot from the outside there has been less than 3 per cent of misshots, and these can always be traced to a broken wire, or the insulation has been rubbed off the wires in the tamping.

M. Quinlin, of the California Powder Works, by a letter dated April 3, 1890, recommended the use of wet wood pulp as a tamping material. A small quantity of it was got for trial, and it was found that it would take up from five to six times its own weight of water. Now wet wood pulp only has been used for tamping for the last two years.

The pulp is kept in barrels at convenient places for the workmen, the supply being renewed by the waterman, who also sees that the supply of water is provided to keep the pulp in the barrels always ready for use. The method of tamping with this wet wood pulp is, first to push to the back of the hole enough wood pulp to fill up about 4 inches of the back of the hole. In doing this enough is left on the underside of the hole to separate the powder from contact with the coal on that side. Then the powder is placed back against the pulp in the back of the hole—the diameter of which is considerably larger than the diameter of the charge of powder. The wood pulp is then tamped around the powder charge with a wooden tamper, and the hole is filled up with the pulp for a space of 8 inches to a foot outside of the powder charge. It is found that this amount of tamping works well. This wood pulp comes from California, and costs, laid down at the mine, about half a cent per ton of the coal mined.

Four men are employed to inspect the mine for gas and dust. These men also examine (during the afternoon) the depth of the undermining, length and position of shot-hole; at the same time they see the dust is all extracted from the shot-hole, and examine the condition of the wood pulp and the explosive before they are placed in the shot-hole. The rules drawn up for the guidance of these men are as follows:

RULE 1. Every morning, before the beginning of the shift, you shall examine all working places and roadways leading thereto, to determine whether there are any dangerous accumulations of gas, or lack of proper ventilation, or obstruction to roadway, or any dangerous conditions; and no person shall be allowed to enter the mine until you have made such an examination, and reported the mine safe, and also recorded the same in a book kept for that purpose.

RULE 2. A station will be appointed by the mine foreman beyond which no workman must pass before he has ascertained his working place to be in a safe condition.

RULE 3. If any gas is found in any part of the mine, the fire bosses will see that none of the workmen of that part of the mine go into their work until their place or places have been reported safe.

RULE 4. In the case of the stoppage of the ventilation from any cause, or from a

dangerous accumulation of gas, or from any cause whatever endangering the lives or safety of the workmen in the mine, or any part of the mine, all the workmen will be drawn from the mine or part of the mine, as the case may be, until the same has been reported to be safe, and such report recorded in the record book.

RULE 5. The fire bosses will see that the crosscuts are made in the entries at every 200 feet, and in rooms every 150 feet, and in rooms, if necessary, have canvas put up at the end of the crosscuts to turn the air-current toward the face of the room.

RULE 6. All old rooms, roadways, and aircourses must be examined at least once a week, and a special report of the same made by the fire-bosses.

RULE 7. If any accumulation of gas be found in any place of the mine it must not be brushed away with a coat or cloth of any kind, but must be removed by a hurdle or hanging screen, so placed that the air-current will strike on the gas and dilute the gas, so that it will no longer be dangerous.

RULE 8. All places not examined daily must be securely fenced across the entire width of the entrance, to prevent any person inadvertently entering the same.

RULE 9. No shots are allowed to be fired unless where all the following conditions exist:

(*a*) Unless all coal dust has been extracted from the hole before being tamped.

(*b*) That only stone or clay or thoroughly wet wood pulp or any substance not liable to strike fire or augment a flame propelled from a blown-out shot, be used in tamping.

(*c*) That the hole has not been drilled beyond the undermining.

(*d*) Unless the place of firing and all contiguous accessible places within a radius of 30 yards be in a wet state resulting from thorough watering, or treatment equivalent to watering.

NOTE. Under no circumstances will a shot be fired unless all the foregoing conditions exist. The fire bosses will be held personally responsible to see that this rule is strictly carried out.

RULE 10. All dangerous places occurring on the roof or sides, and not pertaining to the gas or ventilation, will be rectified by the mine foreman. After such places have been reported by the fire boss to the mine foreman, all further responsibility is not attachable to the fire boss.

RULE 11. All other matters not mentioned in rule 10, and pertaining to the gas or ventilation, to be pronounced safe by the fire boss, to whom all responsibility attaches.

(Signed) Mine Foreman Castle Gate Mine. (Signed) Superintendent Pleasant Valley Coal Company.

In addition to the inspection of the mine for gas and dust by the gas watchman and mine foreman, special inspections are made at other times by order of the superintendent. These inspections are made when the mine foremen and gas watchman least expect them, and the result of such inspection is submitted in writing to the superintendent.

The foregoing methods necessitated the employment of a man whose duty it was to take the number of all men going into or leaving the mine, so that the shot-firer might know that no one was in the mine at the time the shots were fired.

This company has instituted another commendable improvement in the manner of distributing powder and caps to the miners. Tickets are issued to the men from the company's office on request. The following is a full size drawing of ticket:

No.....

.....

Received ....., ...powder.

Received .....caps.

.....

$.....

No .. C. G.

Good for .....giant powder.

Good for .....caps.

Punch outside for powder.
Punch inside for caps.

.....

Clerk.

A clerk fills up this ticket for the quantity of powder and caps called for by the miner, who then signs the stub, which is retained in the office. The ticket is taken to the powder house every morning and the miner receives the quantity of powder and caps he considers sufficient for his day's work. The powder man makes a perforation in the outside divisions of the ticket for every cartridge of powder given out, and another perforation in the inside division for each cap handed over to the miner. When the quantity called for by the ticket has been exhausted the powder man takes it up and the miner procures a new ticket.

In this powder house only a quantity of powder slightly in excess of the daily requirements is kept. The temperature of the house is maintained at about 65° F. by a steam radiator. This insures the powder being in good working condition when delivered to the miners.

There are two magazines (one for the caps and one for the powder) situated about a quarter of a mile apart. These magazines are short drifts run into the hill, and so constructed as to be dry and equable in temperature. The following are the rules drawn up for the handling of this powder by the California Powder Works:

Storing.—Hercules powder may be stored and kept without deterioration in any dry place the temperature of which does not exceed 60° F. At high temperatures there is a slow evaporation of the nitroglycerine, which weakens the powder. Continued dampness in a magazine will cause an efflorescence of the chemical salts to appear at the seams of the boxes, and in time the powder will absorb moisture to its injury.

Detonators should be stored in a separate building; never in the same magazine with the powder.

Handling.—In handling the powder all unnecessary shocks should be avoided; in ordinary handling, however, it is safe against anything but sharp percussion, such as the impact of a rifle bullet, or a blow between hard surfaces, such as a hammer on an anvil; avoid exposing it to a high temperature, as it becomes more sensitive when heated. The heat of the sun on a warm day will notably increase its sensitiveness.

Thawing.—The powder freezes at about 45° F. It will explode when frozen, but not with the same ease or force, so that it is better to thaw it for use. In thawing use warm water as a source of heat. The tem-

terature of the water should not exceed 100° F., or a heat which the wrist will bear comfortably. In the absence of a special thawing apparatus, put the cartridges in a dry, tight vessel, such as a bucket of tin (tin or galvanized iron), and set this in another larger vessel containing the warm water. If steam is used to heat the water, do not apply the steam while the powder bucket is in place.

Charging.—In charging a hole never use a metal rod to tamp the powder. In case of a miss fire do not drill down through the tamping to the charge; remove the tamping to within 3 or 4 inches of the charge, put in a heavy primer, and fire it. Never pick out a charge from a drill hole with a spoon or other metal tools.

Firing.—Use strong detonators containing at least 10 grains of fulminate. Be sure that the cap is not removed from contact with the powder in tamping or filling the hole. For this reason it is generally best to use a primer to which the detonator is firmly attached.

REPORT UPON GOB FIRE IN THE UNION PACIFIC COAL COMPANY'S NO. 1 PLEASANT VALLEY MINE.

Before going into the direct cause of this particular fire, I think it would not be out of place to consider for a little the primary causes and theory of the spontaneous combustion of carbonaceous substances in general. The spontaneous development of heat which is sometimes met with in coal is brought about by the chemical action of the contained substances by oxidation. Such chemical action is influenced to a great extent by the storage and transportation of coal.

Chemical action is generally accompanied by heat, and it is to this heat that the gob fires of mines are due. The spontaneous combustion of coal in the past has been attributed to iron pyrites, and more lately to oxidation of the carbon of the coal.

Let us take each of the causes separately, beginning with iron pyrites, in respect to older and more minute investigation which it has undergone by mining men.

I.—Iron Pyrites.

This is a mineral of very common occurrence in all parts of the world, and is to be met with in a variable quantity in all coals, and occurs in various Tessular forms—in granular concretions, massive, disseminated, dendritic, and reniform.

The varieties commonly found in coal are iron pyrites and marcasite the composition of which, according to Hatchett, is as follows:

	Iron.	Sulphur.	Total.
	Per cent.	*Per cent.*	*Per cent.*
Iron pyrites	47.85	52.15	100
Marcasite	45.66	54.34	100

From the above analysis it will be seen that marcasite is the most unstable form of disulphide of iron, and when met with in coal is mostly to be feared from its greater liability to decomposition and the consequent heat produced.

II.—Oxidation of Carbon.

Spontaneous combustion, resulting from oxidation, has been somewhat carefully investigated of late.

It is a well-known fact that wood charcoal, when freshly heated to a temperature sufficient to expel the moisture it may have absorbed, will condense within its pores nine and seven times its volume of oxygen and nitrogen gas, respectively, from the atmosphere.

This condensation of gases by a porous body is always attended by the production of heat, and explains the ignition of cotton waste, lamp-black and charcoal. Charcoal appears to exert an oxidizing effect upon the vapors and gases it absorbs. This effect is not produced by mere absorption, but it is brought about by the charcoal condensing the gases within its pores; and the consequent heat generated brings the carbon into closer contact with the oxygen, and thereby causes them to lose their respective physical properties, and, by combining, present new characteristics.

The spontaneous ignition of oily cotton waste affords another example in which heat, produced by the action of oxygen (a constituent part of the atmosphere) upon the hydrocarbon compound, saturating the cotton waste. Under these circumstances the porous cotton waste exposes the oxidizable hydrocarbons in a finely comminuted state, and to that extent induces rapid oxidation.

Coals of all kinds contain hydrogen, oxygen and nitrogen, which, combined with a certain amount of carbon, form the volatile combustible matter of the coal, and, like charcoal, is capable of absorbing from one to three times its own volume of oxygen. This property is most active when the coal is first produced, and gradually decreases, although the absorption is purely mechanical at first, and the heat developed by this action, under favorable circumstances, will accumulate to such an extent as to hasten the oxidation of some of the readily oxidizable carbonaceous matter, until a temperature is reached by which the finely divided and readily inflammable particles actually ignite.

Coal, after the absorption of oxygen, gives off carbonic dioxide and water; the latter, by condensation on the cooler portions of the coal, produces the phenomenon known to miners as sweating.

III.—Combined action of Pyrite and Carbon.

I hold that ignition of coal by iron pyrite alone is of rare occurrence, because the oxidation of pyrite is slow, and the rate of progression correspondingly slow, and it would require action on large masses to enable the oxidation to arrive at a temperature sufficient to ignite coal.

Pyrite, owing to its tendency to oxidation and its very general distribution in rocks of all ages, is one of the chief sources of disintegration and destruction of rocks. Therefore those coals that are high in moisture and low in pyrites (especially if the pyrite is represented by marcasite) have the oxidation tending to ignition of the coal initiated by the action of moisture on the pyrite. The small amount of heat developed tends to drive off the moisture of the coal and appropriate the same to itself. This has a double effect on the coal:

First. It breaks up the coal and exposes a larger surface of carbon to the action of oxygen.

Second. The moisture driven off from the coal leaves it in the most favorable condition for the absorption of oxygen.

The carbon being now placed in a favorable condition for the absorption of oxygen, it is only a question of time for its ignition.

The following table from Percy's work on fuel shows the inflammability of coal, resulting from the small percentage of pyrite and the increasing quantity of moisture, arranged in the order of inflammability:

Degree of self-inflammability.	Iron pyrites.	Water.	Remarks.
	Per cent.	*Per cent.*	
Difficulty inflammable	1.13	2.54	Least inflammable.
	1.01–3.04	2.75	
	1.51	3.90	
Medium inflammable	1.20	4.50	
	1.08	4.55	
	1.15	4.75	
Readily inflammable	1.12	4.85	Most inflammable.
	1.90	9.01	
	.83	5.30	
	1.35	4.85	
	.84	5.52	

From the foregoing table it will be noticed that the increase of the self-inflammability of coals culminates somewhere between 5.52 and 9 per cent of water and 0.84 and 1 per cent iron pyrites.

This I only offer as a suggestion, and is merely hypothetical yet.

Having shown the results accruing from the foregoing chemical actions in pyrite and carbon, I shall now pass to the description of the part of the mine in which the gob-fire originated.

The fire originated at a point of the workings cut off by a fault. This fault has a vertical displacement of about 35 feet, and its action on this thick seam of coal (28 feet) has pulverized it for a variable distance on each side of the line of fracture.

Iron pyrites occur in large and small masses irregularly disposed throughout the coal. Some of these masses of pyrite are evidently of the marcasite variety, from the ease with which they become oxidized by exposure to the atmosphere.

The production of slack in this mine is due to the height of the working places (23 feet) and the blasting of the coal without undermining.

This slack has no value either to the operator or miner, and is therefore thrown into the gob, and the masses of pyrite are found scattered throughout the slack.

The mixture of slack and pyrite will have one of the two following results, to wit: First. The initial oxidation of the carbon will be started by the decomposition of the iron pyrite slightly heating the carbon in contact, as well as in disintegrating it and exposing a larger surface to the action of oxygen; or, second, the oxidation of the carbon results in the development of heat and the production of water. This water given off will take up some of the heat produced by the condensation of the oxygen, and upon coming in contact with the iron pyrites will be in a condition favorable to the active oxidation of the iron and sulphur.

In the following table I have shown the amount of sulphur and moisture in the several coals of Pleasant Valley and Castle Valley, arranged in the order of the increase of moisture.

Name of vein.	Sulphur.	Moisture.	Remarks.
	Per cent.	*Per cent.*	
Castle Gate mine	0.49	1.68	Outcrops burned; ignited spontaneously at mouth of mine.
Huntington Creek	.64	3.80	
Pleasant Valley No. 1 mine	.73	4.36	Ignited spontaneously in one or two places in mine.
Pleasant Valley No. 1 mine, 11 feet vein.	.74	5.22	Never been worked.
Holdaway Canyon, 20 feet vein	.71	5.46	Not been worked enough.
Quech-a-pa, 5 feet vein	.87	6.10	No work been done.
Quech-a-pa, 21 feet vein	.71	11.02	This coal is now burning.

By comparing the above coals with Percy's table it will be seen that they all (with the probable exception of Castle Gate and Huntington Creek) come under Percy's class 3, and that the coal of Pleasant Valley is probably the most inflammable.

In this mine where the fire originated is found a mass of coal ground to powder by the action of the fault already spoken of. This grinding had the same effect on the pyrite, and resulted in mixing the pyrite with the carbonaceous material. This being exposed to a warm atmosphere, the conditions favorable to the oxidation of carbon and pyrite were obtained.

Under the above conditions I see no difficulty in accounting for the ignition of the coal.

The roof of the section of the workings in which the fire occurred had caved in some time previous to the fire. It was therefore impossible to reach the burning coal, to have it turned over to cool, or brought to the outside of the mine. This being the case, the only way left in which to put out the fire was to wall in this section, and so smother out the fire. The smoke increased very rapidly until the first three walls were put in. This prevented the passage of the ventilating current over the burning material. The result was remarkable, as the smoke decreased in a very rapid manner until the last stopping was finished. These stoppings consisted of two rock walls, each 2 feet in thickness and about 3 feet apart, built into the mouth of all openings in this section. The space between the walls was filled with fine river sand, well tamped. The outside wall was considerably higher than the one on the inside, and was left open on top so that the sand could be kept well tamped along the top of the inside wall to prevent the leakage of air through the shrinkage cracks of the mortar. In building the walls pipes were built into one or two of the stoppings, in which thermometers were placed in order to indicate any change of temperature that might take place. The outside end of the pipes are plugged up, while the inside is left open.

Before concluding this paper allow me to make a few remarks upon the prevention of gob fires in mines.

In the first place, it may be asked, Does not analysis show any difference between a coal liable to spontaneous ignition and one that is free from this danger? Up to the present time chemists have been unable to prove any difference. However, as the temperature of the mines seldom exceeds 65° F., it is evident that the coal must be in a mass large enough to prevent the radiation of the generated heat produced by the oxidation of pyrite, or the condensation of the oxygen, or the oxidation of the carbon of the coal, to enable the temperature to reach the igniting point. Where the coal slack cannot be brought to the outside of the mine, the gobs of this mine should not be allowed to exceed 3 feet in height. If close attention is devoted by the mine foreman to this matter, and the gobs tested occasionally by thrusting iron needles into them, no difficulty will be experienced in detecting any increase of temperature, as it will be sensible to the touch by running the hand along the needle.

ATMOSPHERIC MOISTURE IN UTAH.

By GEO. N. SALISBURY, *Chief of Weather Bureau, Salt Lake City.*

The air of Utah is well known to be dry. Its humidity is low, both absolutely and relatively. By absolute humidity is meant the actual weight, in grains of water, of the vapor present in any given volume of air; by relative humidity is meant the ratio which the amount of vapor present in the air at any temperature bears to the amount which the atmosphere at that same temperature could hold if saturated; for there is a certain limit, called saturation, to the amount of moisture which the air can hold, which limit increases with the temperature. The warmer the air the greater its capacity for moisture; on the other hand, very cold air can contain only a very slight amount of vapor. For example, fully saturated air, at a barometric pressure of 30 inches, can contain at the temperature of zero F., only 0.545 grain of vapor; the same air at the temperature of 100° F. can contain 19.79 grains.

In nature these limits are seldom reached; just preceding or during severe storms the atmosphere generally approaches, and may sometimes reach, saturation.

The absolute humidity of a given locality is greatest in summer, because then the air being warmest, has the greatest capacity for moisture; the relative humidity may be, and generally is, greatest in winter, although then the air has a less capacity for moisture.

But a climate is moist or dry according as it has a high or low relative humidity; that is, a dry climate is one which has great capacity for absorbing vapor, and a moist climate is one which has small absorptive capacity.

Observations of humidity in Utah have only been made at Salt Lake City for any considerable number of years. Here the record is for eighteen years, and observations have been made by means of the wet and dry bulb psychrometer. Owing to location, it may be safely assumed that the relative humidity is higher in the vicinity of Salt Lake City than in any other portion of the Territory.

Absolutely, it may be higher in the southern counties, or may not, as observation only could show. The absolute humidity has been calculated for Utah as follows:

Ranging from 1.1 grains to the cubic foot of air during January at a temperature of 26°; to 1.7 grains in April temperature 48°; to 3.4 grains in July temperature 77°; to 1.8 grains in October temperature 49°.

Relative humidity is expressed in percentages, absolute saturation being reckoned as 100.

The relative humidity or percentage of saturation at Salt Lake City, determined from eighteen years' observations, 1875 to 1892, inclusive, is as follows, by monthly means:

	Per cent.		Per cent.
January	64.6	July	36.1
February	63.2	August	37.2
March	54.4	September	37.9
April	50.4	October	47.8
May	46.4	November	56.3
June	39.9	December	66.4

The general average for the whole time is 50 per cent.

It will be seen that the relative humidity is greatest in December and January, and least in July—just the reverse of what was the case of the absolute amount of moisture present.

From the above figures of relative humidity, we may calculate the absorptive capacity of the air, taking the average temperature and pressure each month, and obtain rough results as follows, in grains vapor to cubic foot of air:

	Grains.		Grains.
January	0.62	July	5.17
February	0.74	August	5.02
March	1.31	September	3.57
April	1.89	October	1.98
May	2.58	November	1.16
June	3.86	December	0.74

That Salt Lake gives too high percentages of relative humidity for a general value for Utah may be seen by comparison with Castle Gate, where observations of the psychrometer have been taken during 1892:

Salt Lake City.

January	80	July	33
February	81	August	32
March	66	September	32
April	63	October	53
May	56	November	56
June	45	December	76

Yearly average, 56.

Castle Gate.

January	64	July	29
February	57	August	32
March	43	September	32
April	31	October	35
May	32	November	47
June	25	December	64

Yearly average, 37.

Comparisons have shown that the climate of Utah is dryer than some of her neighbors, but moister than others.

Arizona and Nevada are dryer, Colorado and Idaho are less dry.

Let us compare the humidity of Salt Lake City with that of Pittsburg, Pa., a place which, being in about the same latitude and having nearly the same temperature, can fairly represent Pennsylvania, as Salt Lake does Utah.

At Pittsburg eight years of observation, from 1885 to 1892, gives averages as follows:

January	77.4	July	66.6
February	76.1	August	69.8
March	72.5	September	72.5
April	65.3	October	71.3
May	67.1	November	71.6
June	68.4	December	72.1

General average, 70.8.

Salt Lake City averages for the same period were:

January	71.3	July	45.0
February	70.8	August	44.9
March	61.0	September	44.3
April	55.0	October	53.3
May	54.0	November	62.1
June	49.3	December	71.6

General average, 56.8.

Thus the general average was in the ratio of Pittsburg 70.8 to Salt Lake City 56.8, showing the latter to be very much dryer. It is in midsummer that the excess in dryness of Salt Lake is most apparent.

The amount of evaporation that takes place is an indication of the dryness of a locality.

Prof. Gilbert has estimated the evaporation over Great Salt Lake at 80 inches annually.

Observations have been made with the evaporometer at Salt Lake City, and calculations make the annual amount 74.4.

This shows the enormous absorptive capacity of the air over Utah.

NOTE.—Figures in the above article were obtained from the following sources:

Record of Salt Lake City Weather Bureau Station.

"Monthly Weather Review" of the general service of the United States.

"Guyot's Physical Tables," and "Climate of the Arid Region."

Mean relative humidity at Salt Lake City, Utah.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly.
1875	62	52	50	42	39	30	32	25	31	31	61	70	43.7
1876	67	60	56	42	45	33	31	34	30	47	54	85	48.7
1877	75	74	54	45	45	33	26	24	33	39	56	68	47.7
1878	65	66	54	45	40	31	27	35	38	45	55	59	46.7
1879	64	49	35	40	27	32	22	23	20	41	49	56	38.1
1880	47	54	46	47	41	27	26	26	30	33	40	57	39.6
1881	48	53	42	44	36	28	30	33	28	38	47	52	39.9
1882	53	50	50	53	38	39	34	40	39	52	48	57	46.1
1883	57	56	46	55	41	32	32	35	35	57	55	58	46.5
1884	55	57	59	55	51	39	30	35	45	52	52	60	49.2
1885	56	69	58	62	64	59	51	56	53	55	69	75	60.5
1886	72	68	68	66	75	82	85	77	61	63	74	75	72.0
1887	72	68	55	59	54	49	49	40	44	44	47	67	53.9
1888	73	68	61	43	48	42	38	34	35	45	66	70	51.8
1889	74	72	53	45	44	30	24	34	34	54	62	68	49.5
1890	73	66	63	50	44	38	38	42	45	58	58	70	53.8
1891	71	74	64	52	47	49	42	44	50	54	65	72	57.0
1892	80	81	66	63	56	45	33	32	32	53	56	76	56.1
Sum	1,163	1,137	980	908	835	718	650	669	683	861	1,014	1,195	900.8
Mean	64.6	63.2	54.4	50.4	46.4	39.9	36.1	37.2	37.9	47.8	56.3	66.4	50.0
Mean*	71.3	70.8	61.0	55.0	54.0	49.3	45.0	44.9	44.3	53.3	62.1	71.6	56.8

* Eight years, 1885 to 1892.

Mean relative humidity at Pittsburg, Pa.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly.
1885	76	78	69	60	60	64	65	71	70	72	71	72	69.0
1886	82	81	79	72	73	75	73	77	78	72	71	78	75.9
1887	73	77	67	65	66	66	63	66	64	70	68	71	68.0
1888	73	71	71	61	68	64	66	72	76	73	74	71	70.0
1889	75	73	68	64	62	70	67	68	73	76	81	75	71.0
1890	84	78	84	82	82	67	62	67	75	76	70	77	75.3
1891	82	79	72	59	62	69	66	70	76	67	66	61	69.1
1892	74	72	70	59	64	72	71	67	68	64	72	*x	68.5
Sum	619	509	580	522	537	547	533	558	580	570	573	505	566.8
Mean	77.4	76.1	72.5	65.3	67.1	68.4	66.6	69.8	72.5	71.3	71.6	72.1†	70.8

* Record not complete. † Mean of 7 years.

FEDERAL LAWS RELATING TO COAL MINES.

An act of Congress of March 3, 1891, entitled "An act for the protection of the lives of miners in the Territories."

SECTION 1. That in each organized and unorganized Territory of the United States wherein are located coal mines, the aggregate annual output of which shall be in excess of one thousand tons per annum, the President shall appoint a mine inspector, who shall hold office until his successor is appointed and qualified. Such inspector shall, before entering upon the discharge of his duties, give bond to the United States in the sum of two thousand dollars, conditioned for the faithful discharge of his duties.

SEC. 2. That no person shall be eligible for appointment as mine inspector under section one of this act who is not either a practical miner or mining engineer, and who has not been a resident for at least six months in the Territory for which he shall be appointed; and no person who shall act as land agent, manager, or agent of any mine, or as a mining engineer, or be interested in operating any mine in such Territory shall be at the same time an inspector under the provisions of this act.

SEC. 3. That it shall be the duty of the mine inspector provided for in this act to make careful and thorough inspection of each coal mine operated in such Territory, and to report at least annually upon the condition of each coal mine in said Territory with reference to the appliances for the safety of the miners, the number of air or ventilating shafts, the number of shafts or slopes for ingress or egress, the character and condition of the machinery for ventilating such mines, and the quantity of air supplied to same. Such reports shall be made to the governor of the Territory in which such mines are located, and a duplicate thereof forwarded to the Secretary of the Interior, and in the case of an unorganized Territory directly to the Secretary of the Interior.

SEC. 4. That in case the said mine inspector shall report that any coal mine is not properly constructed or not furnished with reasonable and proper machinery and appliances for the safety of the miners and other employés, it shall be the duty of the governor of such organized Territory, it shall be the duty of the Secretary of the Interior to give notice to the owners or managers of said coal mine that the said mine is unsafe, and notifying them in what particular the same is unsafe, and requiring them to furnish or provide such additional machinery, slopes, entries, means of escape, ventilation, or other appliances necessary to the safety of the miners and other employés within a period to be in said notice named, and if the same be not furnished as required in said notice shall be unlawful after the time fixed in such notice for the said owners or managers to operate said mine.

SEC. 5. That all coal mines in the Territories of the United States, the owners or managers shall provide at least two shafts, slopes, or other outlets separated by natural strata of not less than one hundred and fifty feet in breadth, by which shafts, slopes, or outlets, distinct means of ingress and egress shall always be available to the persons employed in said mine. And in case of the failure of any coal mine to be so provided, it shall be the duty of the mine inspector to make report of such fact, and thereupon notice shall issue, as provided in section four of this act, and with same force and effect.

SEC. 6. That the owner or manager of every coal mine at a depth of one hundred feet or more shall provide an adequate amount of ventilation of not less than fifty-five cubic feet of pure air per second, or thirty-three hundred cubic feet per minute, for every fifty men at work in said mine, and in like proportion for a greater number, which air shall by proper appliances or machinery be forced through such mine to the face of each and every working place, so as to dilute and render harmless and expel therefrom the noxious or poisonous gases; and all workings shall be kept clear of standing gas.

SEC. 7. That any mine owner or manager who shall continue to operate a mine after failure to comply with the requirements of this act and after the expiration of the period named in the notice provided for in section four of this act, shall be deemed guilty of a misdemeanor, and shall be fined not to exceed five hundred dollars.

SEC. 8. That in no case shall a furnace shaft be used or for the purpose of this act be deemed an escape shaft.

SEC. 9. That escape shafts shall be constructed in compliance with the requirements of this act within six months of the date of the passage hereof, unless the time shall be extended by the mine inspector, and in no case shall said time be extended to exceed one year from the passage of this act.

SEC. 10. That a metal speaking tube from the top to the bottom of the shaft or slope shall be provided in all cases, so that conversation may be carried on through the same.

SEC. 11. That an approved safety catch shall be provided and sufficient cover over-

head on every carriage used in lowering or hoisting persons. And the mine inspectors shall examine and pass upon the adequacy and safety of all such hoisting apparatus.

SEC. 12. That no child under twelve years of age shall be employed in the underground workings of any mine. And no father or other person shall misrepresent the age of anybody so employed. Any person guilty of violating the provisions of this section shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not to exceed one hundred dollars.

SEC. 13 That only experienced and competent and sober men shall be placed in charge of hoisting apparatus or engines. And the maximum number of persons who may ascend or descend upon any cage or hoisting apparatus shall be determined by the mine inspector.

SEC. 14. That it shall be lawful for any inspector to enter and inspect any coal mine in his district and the work and machinery belonging thereto at all reasonable times, but so as not to impede or obstruct the workings of the mine; and to make inquiry into the state of the mine, works, and machinery, and the ventilation and mode of lighting the same, and into all matters and things connected with or relating to the safety of the persons employed in or about the same, and especially to make inquiry whether the provisions of this act are complied with; and the owner or agent is hereby required to furnish means necessary for such entry, inspection, examination, and inquiry, of which the said inspector shall make an entry in the record of his office, noting the time and material circumstances of the inspection.

SEC. 15. That in all cases of fatal accident a full report thereof shall be made by the mine owner or manager to the mine inspector, said report to be in writing and made within ten days after such death shall have occurred.

SEC. 16.—That as acumulative remedy, in case of the failure of any owner or manager of any mine to comply with the requirements contained in the notice of the governor of such Territory or the Secretary of the Interior, given in pursuance of this act, any court of competent jurisdiction, or the judge of such court in vacation, may, on the application of the mine inspector, in the name of the United States, and supported by the recommendation of the governor of said Territory, or of the Secretary of the Interior, issue an injunction restraining the further operation of such mine until such requirements are complied with, and in order to obtain such injunction no bond shall be required.

SEC. 17.—That wherever the terms "owner or manager" is used in this act the same shall include lessees or other persons controlling the operation of any mine. And in case of the violations of this act by any corporation the managing officers and superintendents, and other managing agents of such corporation, shall be personally liable and shall be punished as provided in the act for owners and managers.

SEC. 18.—That the mine inspectors provided for in this act shall each receive a salary of two thousand per annum, and their actual traveling expenses when engaged in their duties.

SEC. 19.—That whenever any organized Territory shall make or has made provision by law for the safe operation of mines within such Territory, and the governor of such Territory shall certify said fact with a copy of the said law to the Secretary of the Interior, then and thereafter the provisions of this act shall no longer be enforced in such organized Territory, but in lieu thereof the statute of such Territory shall be operative in lieu of this act.

TERRITORIAL LAWS RELATING TO COAL MINES.

AN ACT providing for escapement shafts in coal mines operated within the Territory of Utah.

SECTION 1. In all coal mines which are now, or which may hereafter be operated in the Territory of Utah, and which are now, or which may be hereafter, operated through a shaft, slope, or tunnel, and in which more than ten men are or may be employed in each twenty-four hours, there shall be made an escapement shaft, slope, or tunnel, for the purpose of securing the speedy and safe egress of the workmen in case of danger, or ingress when desired. An opening in a continuous mine having such means of egress shall be deemed such escapement shaft, slope, or tunnel for the purpose of this act. Whenever two or more veins of coal are or shall be worked in any mine, the escapement herein provided for shall be made between so many of them as are worked, and in the manner and time designated by the inspector of mines. Whenever the escapement is or shall be through a continuous mine, then the owners or lessees of such mines shall make and keep open an escapement way of at least four feet high by six feet wide each within his own mine. Any failure to comply with the provisions of this act shall subject the offenders to the penalty herein provided. After six months from the passage of this act it shall be unlawful for the owner, agent, or operator of any mine now in operation to employ more than

ten persons in any mine operated by shaft, slope, or tunnel until there is an escapement way, unless the time shall be extended, when absolutely necessary, by the mine inspector appointed by law. But in no case shall the time be extended to exceed one year from the passage of this act.

SEC. 2. In every mine operated after the passage of this act and after twelve thousand square yards have been mined out, it shall be unlawful for the owner, agent, or operator to employ more than ten persons at work in said mine on each shift unless there are two distinct outlets.

SEC. 3. The term owner used in this act shall mean the immediate proprietor, lessee, or occupant of any mine or part thereof, and the term agent shall mean any person having on behalf of the owner the care or management of any mine or any part thereof.

SEC. 4. Any person or persons who shall violate any of the provisions of this act shall, upon conviction, be punished by a fine of not more than one thousand dollars, or by imprisonment in the penitentiary for not more than one year, or by both such fine and imprisonment, for each and every offense.

Approved, March 10, 1892.

AN ACT to provide for the safety of workmen employed in coal mines.

SECTION 1. The owner, agent, or operator of any coal mine operated within the Territory of Utah shall keep a sufficient supply of timber on hand, to be used as props and cap pieces, so that the workmen employed therein may at all times be able to properly secure said workings from caving in, and it shall be the duty of said owner, agent, or operator to send down in the mine all such props and cap pieces, and place them not more than three hundred feet from the face of such workings.

SEC. 2. The violation of any of the provisions of this act shall be punished by a fine of not more than one thousand dollars, or by imprisonment in the penitentiary for a term not exceeding one year, or by both such fine and imprisonment.

Approved, March 10, 1892.

REPORT

OF

THE GOVERNOR OF OKLAHOMA.

GUTHRIE, OKLA., *November 3, 1893.*

DEAR SIR: In reply to your request for a report of the condition of Oklahoma Territory, I beg leave to submit the following:

GENERAL OBSERVATIONS.

The growth of the Territory in the four years following the opening of the first lands has been in many respects wonderful. Where once the deer bounded in freedom over the plains now are found farm-houses and wheat fields not differing materially from those of the older States. Fine cities with electric lights, waterworks, and all modern conveniences have been built up. He who deplores that the red man has been driven back and back until he is almost gone will find in these happy homes of Oklahoma much to console him and justify God's law of the survival of the fittest.

INHABITANTS.

There has been no official census of the inhabitants of the Territory since the census of 1890, and so the major portion of the figures I shall give subsequent to that date can at best be but approximate. Below I have prepared a table of the population of the Territory by counties for 1890, according to the census for 1892, as estimated by Governor Seay in his report, and for 1893 I estimated the population by finding the ratio of voters to population in 1890, which was $7\frac{1}{16}$, and to find the population in 1893 I multiplied the number of votes for Representative to the Fifty-third Congress by the ratio with the result below.

County.	1890.	1892.	1893.
Logan	14,254	22,000	30,995
Oklahoma	12,794	21,000	25,363
Kingfisher	8,837	16,500	20,640
Payne	6,835	13,000	15,967
Canadian	7,703	15,500	15,580
A (Lincoln)	None.	10,500	13,401
Cleveland	7,011	14,000	12,844
B (Pottawatomie)	None.	10,000	8.911
C (Blaine)	None.	3,000	3,204
D	None.	1,000	554
E	None.	300	215
F	None.	700	.....
G	None.	1,000	723
H	None.	1,600	.....
Beaver	2,982	3,000	2,816
Total	60,416	133,100	151,213
Cherokee Strip	.....	.....	100,000

There were 115,000 certificates issued by the booths to intending settlers in the Cherokee Strip. Many of them, however, were just there for speculative purposes, and returned to their homes in a very few days. So that I place the population of the Cherokee Strip at 100,000, believing it to be full high for the winter season, but not far from right next spring when the settlers return.

The immigration of colored people from the South has very largely stopped, and now there is not a very great number in the Territory. They have been useful as servants, and not a few of them have homes of their own and employment. Of the Indians I shall speak later.

TAXABLE PROPERTY.

County.	Assessed valuation	
	1892.	1893.
Logan	$2,747,276.50	$3,107,710.44
Oklahoma	2,661,221.70	3,084,307.00
Kingfisher	1,252,036.67	1,606,493.17
Canadian	1,943,853.40	1,498,646.66
Cleveland	1,105,875.48	1,267,785.81
Paine	665,629.90	900,126.00
Pottawatomie	314,665.78	552,098.00
Lincoln	275,109.48	539,527.00
Beaver	519,493.54	497,783.40
Blaine	.....	297,322.00
Roger Q. Mills	.....	186,369.84
Washita	.....	132,908.00
Day	.....	103,476.76
G	.....	96,029.00
D	.....	80,473.30
Total	11,485,162.45	13,951,056.38

Total assessed value of property for 1891, $6,878,928.95.

The greater number of people came to Oklahoma poor, but the above table will show that there has been a wonderful increase in wealth in the last four years. The above table includes both real and personal property, but by far the larger portion is personal property, as not many farms are as yet proved up. In the not very distant future the taxable property of the Territory will be multiplied many times. This coming winter most of the farmers in Oklahoma proper will take out their patents.

RAILROADS AND TELEGRAPH.

There are at present but two trunk lines of railroad in Oklahoma, with a short line—the Choctaw Railroad. Several other lines are projected, but have not yet been built. We are in need of a few more lines, as many portions of the Territory are removed 60 to 100 miles from the railroad. A more direct connection with the pineries of Arkansas would be of great advantage. The table below shows the miles of track and its nature, in Oklahoma, exclusive of the Cherokee Strip.

RAILROADS AND TELEGRAPH.

Name.	Miles.	Value per mile.	Total.
Atchison, Topeka and Santa Fe R. R.:			
Main track	84	$5,500	$462,000
Side track	12.32	2,000	24,640
Buildings	.....	.....	12,730
Rolling stock	.....	.....	117,600
Total	.....	.....	616,970
Chicago, Rock Island and Pacific R. R.:			
Main track	56.76	5,500	312,180
Side track	4.06	2,000	8,120
Buildings	.....	.....	6,550
Rolling stock	.....	.....	22,232
Total	.....	.....	349,082

Appended herewith is a report of the Chicago, Rock Island and Pacific Railroad, showing the nature and amount of business transacted by it for the year ending June 30, 1893:

Name.	Miles.	Value per mile.	Total.
Choctaw Coal Road, main track	31.40	$4,006	$125,600
Western Union Telegraph Co	123.60	150	18,520
Choctaw Telegraph Co	30	75	2,250
Pullman Palace Car Co. (5 cars)	.....	.....	6,000
			152,370

BANKS AND BANKING.

There are six national banks in Oklahoma, each having a capital stock of $50,000, and twenty-four private banks with capital stocks ranging from $10,000 to $50,000. I have written all the banks of the Territory for statements, but as yet have not received answers from but five national banks, which show for the five a capital stock of $250,000; deposits, $685,547.87; loans and discounts, $322,573.68. I have received answers from seven private banks which show an average capital stock of $24,000 and average deposits of $31,000, with average loans and discounts of $30,000. I take it that those unreported would show about the same as those reported, and this would make the following showing for the thirty banks:

Capital stock	$876,000
Deposits	1,429,000
Loans and discounts	1,042,000

These figures show the condition October 3, 1893. The deposits are very much lower than on June 30. However, the financial stringency here has very largely passed. When the very large wheat crop of this year is harvested the deposits will be larger than now.

PUBLIC FINANCES.

The latest report of the auditor of the Territory I have is one made April 1, 1893, which is as follows:

Financial statement of Oklahoma Territory.

Total Territorial warrants issued to April 1, 1893	$47,184.89
Total Territorial warrants redeemed to November 30, 1893	19,863.59
	27,321.30
Amount due Territory on assessed valuation ($11,485,142.45) for the year 1892	34,455.54
Amount due from insurance licenses	1,500.00
Total due Territory for year 1892	35,955.54
Deduct total standing indebtedness April 1, 1893	27,321.30
Balance in favor of Territory	8,634.24

Since this the Territory has incurred some considerable expense, but on the whole our financial condition is excellent, and I sincerely trust will continue so. The Territory has no bonded indebtedness. Several of the counties have gone in debt to a very considerable extent, but with the increase of taxable property all will be well.

PUBLIC SCHOOLS.

When the settlers first came to Oklahoma they found themselves without schoolhouses and without laws; but with a fortitude certainly admirable they built schoolhouses by private subscription and had schools the first winter. By act of Congress $50,000 was appropriated for the use and benefit of the public schools of Oklahoma; this materially aided the efforts of the people, and schools have been maintained in nearly every district ever since. Very few school districts but that have very comfortable schoolhouses now, and that, too, in most instances without any bonded indebtedness.

The second legislative assembly changed from township to the district system, and in most instances it has proved satisfactory. I am not able to speak as definitely about the public schools as I would like for the reason that reports from the school districts are very meager.

With the increase of taxable property and the increased funds derived from leasing the school lands, the financial condition of the schools will be very much better in the future. Concerning the leasing of school lands more will be said in another place.

A similar condition which confronted the settlers of Oklahoma proper now confronts the settlers of the Cherokee Strip. No assessment was made this year, and no taxes can come in until February, 1895. If Congress would make an appropriation for the benefit of the schools to be established in the Cherokee Strip it would be money well spent. The people in general have manifested a very great interest in the public schools of the Territory, and justly, for in the schoolhouse rather than in the forts and arsenals must a nation find its true strength.

COLLEGES.

By act of the Territorial legislature a Territorial university was located at Norman, and a Territorial normal school at Edmond, and the Agricultural and Mechanical College at Stillwater. The univer-

sity has made a very excellent start towards accomplishing the purpose for which it was created. It is supported by a one-half mill tax, which will amount to about $8,000 per year. The course would correspond favorably with that of Eastern colleges. A new building has just been completed for the university.

The Normal school at Edmond aims to prepare teachers for the public schools, and has just completed a fine building.

The Agricultural and Mechanical College at Stillwater is the best endowed of any of the schools of the Territory, and bids fair to do most excellent work. It was established in pursuance of an act of Congress authorizing the establishment and endowment of colleges for the benefit of agriculture and mechanic arts, appropriating $15,000 for the fiscal year 1890, and providing for $1,000 increase each year for ten years. The experimental station issues a bulletin of the results of their investigation, which promises much good to the Territory.

The President's proclamation opening the Cherokee Outlet reserves the thirteenth section for the benefit of the three colleges. This will make a very neat income for each of the colleges, once it is leased.

Each of the institutions has in attendance about one hundred students, and new ones constantly coming. It is the aim to have these colleges correspond with the high school and make a complete system of education from the lowest to the highest.

There are several private institutions doing good work and which have a good attendance.

AGRICULTURE.

Situated as it is, midway between the North and the South, with a soil and climate unsurpassed, Oklahoma is admirably adapted to growing almost every kind of plant. In agriculture the Territory has a never-failing source of support and income. With the exception of one year the seasons have been excellent. Wheat this year made a very fine yield, averaging about 20 bushels to the acre all over the Territory. Some pieces are reported as yielding 62 bushels to the acre. I personally know of several pieces that have made 40 bushels all over the field. This has placed most of the farmers, very few of whom are in debt, in comfortable circumstances, notwithstanding the very low price of wheat. Those who have seen the hardships passed through in the early days can appreciate the advances made by the farmers of this Territory. Corn, too, has made a very good crop, as well as oats, each making about 40 bushels to the acre. Very little grass has been sown as yet, and so there are not very many meadows. I can not pass this subject by without mentioning the colored man's delight, sweet potatoes and watermelons, both of which grow to enormous size and have a very delicious flavor. The figures given below show the acreage of various agricultural products:

AGRICULTURE.

Farm land in use	acres	2,372,482
Cash value of farms		$13,022,345
Cash value of farm implements		$340,761
Corn (average yield 40 bushels)	acres	284,254
Wheat (average yield 20 bushels)	do	222,310
Oats (average yield 35 bushels)	do	109,374
Cotton (average yield 500 pounds)	do	21,311
Sorghum	do	18,755
Hungarian millet	do	14,121
Broom corn	do	4,422

Irish potatoes	acres..	4,983
Sweet potatoes	do....	1,907
Castor beans	do....	984
Rye	do....	929
Peanuts	do....	807
Flax	do....	596
Timothy	do....	545
Clover	do....	538
Buckwheat	do....	194
Orchard blue grass	do....	153

HORTICULTURE.

Vineries	acres..	8,059
Apple trees		683,611
Peach trees		648,222
Cherry trees		69,242
Pear trees		51,147
Apricot trees		36,865
Quince trees		25,711
Vineyards	acres..	1,808
Blackberries	do...	2,437
Strawberries	do...	1,402
Raspberries	do...	640

The entire Territory is well adapted to fruit-raising, and in a short time will have a large surplus to export. The more hilly portions are especially adapted to apples and grapes. It is a matter of satisfaction to see the acreage of fruit at this early day.

STOCK-RAISING.

There has not been as much done at this as ought to have been done, because many of the farmers were very poor on coming to the Territory and did not bring with them much stock. However, most farmers have gotten a start now, and before long this will be one of the principal occupations. The portions of the Territory removed from the railroad are very well adapted to feeding stock, owing to the difficulty of marketing the grain in any other way.

MINING.

As yet almost nothing has been done by way of opening up mines in the Territory saving those of building stone, of which an excellent quality is found in various parts of the Territory. There is a very fine quarry of flagging and building stone in the Cherokee Strip near Arkansas City. Many buildings in all the cities of Oklahoma are built of native stone. Very little has been done by way of prospecting for coal or other minerals. Coal has been found at various places and some iron ore, but no mines have as yet been opened. In due course of time, however, this will become an important industry. There are exhaustless deposits of salt and gypsum.

MANUFACTURING.

Manufacturing is in its infancy, but is certainly a hopeful youth and offers great inducements to capital. Every city has its mills, and some as fine flouring mills as can be found anywhere may be found in Oklahoma. There are several planing mills turning out good work of all

kinds and cabinet works capable of doing as fine work as can be done anywhere. There has been talk of an iron foundry, but as yet none has been established in the Territory. It would certainly be a paying institution. A great deal of lumber is being sawed from oak, cottonwood, and walnut. Eastern capitalists will find it to their advantage to visit Oklahoma.

SOCIAL AND RELIGIOUS.

Society, which at first was disorganized, is now in much better condition and the worthy moral element is fast coming to the front, while the rough element, at first so prominent, are seeking their level as they become known. Nearly all the fraternal societies are represented here by a good, strong membership. There are very few caste lines, and in the main the people are sociable and friendly.

The churches recognizing the importance of this new and promising field early sent strong missionary forces here. I judge that the several churches are expending in this home mission work not less than $60,000 per annum. A large portion of the people came here to better their financial condition and do not have much concern for other matters, but there is a small portion of earnest and philanthropic persons who are working very hard for the advancement of the whole people.

I have written to the ministers of the various denominations for statistics concerning their churches, and the table below will show the estimates furnished by such as have answered. The Young Peoples' Society of Christian Endeavor have been doing good work.

Ruffianism in Oklahoma is fast on the wane and will soon be a thing of the past.

Church.	No.	No. of members.	Average membership.
Episcopal	6	166	27
Methodist Episcopal (North)	165	2,136	13
Baptist	25	800	32
Congregational	24	616	26
Catholic	25	10,000	250
Presbyterian	24	750	30
Epworth League	3	.....	.....
Young Men's Christian Association	1	15	.....
Young People's Society of Christian Endeavor	50	1,000	.....

INDIANS.

I can not in this place enter upon any extended discussion of Indian problems, nor is it desirable. We have within the Territory, upon their allotments, Iowas, Sac and Foxes, Pottawatomies, and Absentee Shawnees, Cheyennes, and Arapahoes, in Oklahoma proper, and in the Cherokee Strip the Pawnees, Cherokees, and Tonkawas. Full statistics may be found in the report of the Commissioner of Indian Affairs.

In my judgment the best solution of the Indian problem lies in allotment of their lands in severalty and bringing them directly in contact with civilization. The portions of the Indian Territory not yet opened to settlement are very wild and the Indians see only the worst side of civilization, and their progress will be very slow until they come in closer contact with the white man. Where lands have been taken in severalty the Indians have generally made an effort to accommodate

themselves to civilization and many have gone to work and are doing very well in agricultural and mercantile pursuits. I earnestly recommend that negotiations be kept on foot with a view to the ultimate allotment in severalty of all the lands of the Indian Territory.

THE CHEROKEE OUTLET.

Almost a new empire has just been opened to the north of us and now, or soon, there will be 100,000 people finding homes there. No such a wild exciting run for homes was ever yet made as when the guns fired the signal at 12 o'clock noon, September 16, and yet all was orderly and not many were hurt. There were 115,000 booth certificates issued to intending settlers. Just here I may say that the booth system has done a vast amount of good in keeping out illegal claimants and will long continue to do so. The difficulty experienced in registering at the booths was far overbalanced by the check it was upon fraud. In spite, however, of all that faithful officials could do there were a vast number of "sooners" who took possession of some of the best lands and lots. No effort should be spared to bring them to justice. The eastern part of the Cherokee Outlet is very fertile and will soon make a very wealthy community. I have had a very arduous task on my hands in making the appointments of county officials in the new counties and have already issued upward of a hundred commissions. In a place where persons are as newly acquainted as in Oklahoma this has been no small task, but I have discharged it to the best of my ability. Several very fine towns have grown up on the Cherokee Strip and large and permanent building are in process of erection.

This office is in receipt of a very heavy mail daily asking of the school lands in the Cherokee Strip. No more useful and beneficent thing was ever done than the reservation by the President of sections 13 and 33 in each township. This makes a very much needed fund for education and benevolence, and I sincerely hope that the same policy may be followed in future opening of lands. I would recommend that these school lands be immediately leased to the highest bidder.

THE FIVE NATIONS.

It is certaintly very desirable that the five nations of Indians be included in any State that may be formed so that the whole may come in as one State. The condition of affairs in the Indian Territory is certainly very deplorable, and with the crudity of their forms of government it will always be difficult to suppress crime.

PUBLIC BUILDINGS.

As yet no public buildings have been erected by the Territory for the public officers. It would be much better if some buildings could be erected at an early date. Very few of the counties have county buildings at present. The United States have no public buildings of any consequence, though it has much business to transact here.

WORLD'S COLUMBIAN EXPOSITION.

The second legislative assemby appropriated $15,000 for the Oklahoma exhibit at Chicago. With this a very nice building has been erected and a very creditable exhibit prepared. Our exhibition of cereals is considered especially fine.

LEASING SCHOOL LAND.

The results obtained from leasing the school lands of Oklahoma are eminently satisfactory, and this will in the near future be a very great source of income to the public schools. Already very nearly $100,000 in cash and notes has been received from leasing the school lands. The leases of lands in Oklahoma proper expire next April, and these lands ought to be re-leased this winter. This will probably be upon us at very nearly the same time as the leasing of the Cherokee Strip lands and will make the business of that department very large.

I trust that some equitable rule for re-leasing, protecting both the lessee in his improvements and the school fund, will be made at an early date. It is very desirable that provision be made for leasing the school lands of the Cherokee Strip during this coming winter, so that lessees may begin work next spring.

Below I have made a tabulated statement of funds received from the leasing of school lands for the year ending June 30, 1893:

Total cash received, for fiscal year ending June 30, 1893	$21,021.83
Total expenses for fiscal year ending June 30, 1893	1,857.16
Balance	19,164.67
Total amount covered into Territorial treasury for fiscal year ending June 30, 1893	18,941.48
Cash on hand June 30, 1893	223.19
Net proceeds from leasing school lands for fiscal year ending June 30, 1893	19,164.67

Notes on hand June 30, 1893:

Due January 1, 1892	1,478.47
Due April 1, 1892	485.40
Due April 1, 1893	1,137.15
Miscellaneous	640.75
Due January 1, 1894	10,694.46
Due April 1, 1894	1,494.00
Due December 15, 1893	13,760.97
Due December 15, 1894	8,808.93
Due December 15, 1895	3,177.46
Due December 15, 1892	3,838.65
Total	45,516.24

A GREAT FUTURE.

Anyone acquainted with the vast resources of Oklahoma and Indian Territories can but feel that there is a very enviable destiny before the State that will one day be carved from this Territory. Its soft Italian climate, its fertile soil, and genuine American inhabitants are elements that can not fail to produce a Commonwealth equal to any in that glorious galaxy of States that are at once the hope and inspiration of humanity.

Your most obedient servant,

WILLIAM C. RENFROW,
Governor.

HON. HOKE SMITH,
Secretary of the Interior, Washington, D. C.

REPORT

OF

THE GOVERNOR OF ALASKA.

DISTRICT OF ALASKA,
EXECUTIVE OFFICE,
Sitka, October 1, 1893.

SIR: I have the honor to submit herewith my first annual report, in compliance with the act of Congress creating a civil government for the district of Alaska, approved May 17, 1884.

I was duly qualified as chief executive of the Territory of Alaska August 28, 1893. The brief period for which I have performed the duties of governor will necessarily limit my report to generalities, there not being sufficient time to collect accurate statistics of the diversified industries and products of the country. The civil officers, who were entrusted with the administration of both the civil and criminal law, have been vigilant and faithful in the discharge of their duties, and the people are in the enjoyment of peace and prosperity.

Mining, fishing, and the taking of furs are the leading industries that furnish employment for a large majority of the people, both white and native.

MINING.

There has been greatly increased activity in the gold-mining industry during the past year. The well-established mines have continued to yield their usual amount, and some of them have largely increased their production. Many new claims have been located, and new mines opened with gratifying results.

FISH.

The large amount of fish taken from Alaskan waters during the past few years has created some apprehension in regard to the supply. The Government has already taken efficient measures to prevent the further wasteful destruction of this valuable species of food, and we feel assured that no effort in this direction will be relaxed. The continued rains during the present season have so swollen the streams that the usual catch could not be taken, and the pack will not be quite up to the yearly output.

SEAL ISLANDS.

The decision of the Bering Sea court of arbitration, made public at Paris August 15, 1893, has given great satisfaction to the people of Alaska for the reason that it is a triumph of civilization to have a great international dispute settled by a peaceable arbitration, and also

because it will afford protection to seal life and put to an end in a great measure the wanton destruction of that animal.

The occupation of the poacher is gone if the new regulations are enforced in regard to the close season, and the prohibition of the use of firearms and explosives in fur-sealing.

But 7,500 seal skins were taken by the North American Commercial Company, lessees of the islands of St. Paul and St. George, during the season of 1893. So far as we have information, the company have complied with all the conditions of their contract, and have dealt justly and fairly with the natives.

MILITIA.

The militia organization in Alaska is in a state of disintegration. The migratory habits of the people will prevent any such organization from becoming permanent.

Militia soldiers in Alaska could only be used as home guards, or for police duty in the immediate vicinity of their organization. To be of any service to the Territory at large, each organized company would be under the necessity of having and maintaining steamboat transportation for their full complement of men, there being no roads or land travel possible in the country.

For the maintenance of peace, good order, and the enforcement of the laws, the civil government of the Territory can rely upon the United States Navy, which has always rendered prompt and efficient service.

The Executive has been informed by Lieut. Commander William T. Burwell, commander of the man-of-war *Pinta*, now lying in the Sitka Harbor, that the ship will be ready to sail for any place in Alaska in one hour after being requested to do so by the governor of the Territory.

The Commander also stated the fact that, during a recent cruise of 1,000 miles, the *Pinta* had made an average of 9 knots per hour.

The native people are not hard to control, and are easily led into better ways, when treated with kindness and consideration; but no doubt the coming of the gunboat has much to do with the amicability of the uncivilized portion of them.

LIQUOR TRAFFIC.

The law prohibiting the importation, manufacture, or sale of intoxicating liquors in Alaska is (in its present construction) a source of irritation and discontent amongst all classes of people in the Territory. It gives rise to a large traffic in smuggled liquors, mostly from British Columbia, which our custom officers can not prevent and have not the means to suppress. Either the law should be changed or the revenue officers provided with the means to enforce its provisions.

Under the regulations made by the President and promulgated in Treasury Circular No. 34, dated March 12, 1892, the governor of the Territory may grant permits to sell intoxicating liquors for medical, mechanical, and scientific purposes. He may also revoke these permits for any violations of the regulations under which they were granted.

INDIAN POLICE.

The employment of Indian police by the Government has a tendency to establish confidential relations between the two races. The native

policeman takes great pride in the performance of his duty and has proven himself to be honest, prompt, and efficient in preventing the sale of liquor and preserving peace and good order amongst his people.

Their influence has also been exerted for good in the way of having the Indian children attend the Government schools.

EDUCATION.

Fourteen Government and an equal number of contract schools were in successful operation during the past year. Eleven different denominations have established mission schools in Alaska, and the Government, recognizing the efficiency of these institutions, and being satisfied of the thorough manner in which they educate, civilize, and Christianize the native people, had for some years made annual contracts with these schools to board, clothe, and teach a fixed number of Indian children. Several of these religious denominations, through their authoritative assemblies, expressed their approval of an amendment to the Constitution of the United States to prohibit Congress from appropriating any money out of the national Treasury for the benefit of sectarian schools; and Congress laboring under the erroneous impression that no more subsidies would be accepted by these organizations, reduced the appropriation for the education of children in Alaska to $30,000, an amount entirely inadequate to the needs of the Territory.

The conditions which cause Government aid to mission schools to be undesirable in the more advanced States and Territories do not exist in Alaska. No matter what particular denomination may be in control of a mission school here, it is the object and desire of all to have the native children taught how to speak, read, and write the English language and to have them learn something of the principles of Christian civilization; also to acquire habits of industry and a knowledge of the mechanical arts. Six years acquaintance with the management of these schools has led me to believe that sectarianism is kept entirely in abeyance. It is in the interest of humanity, and economy as well, to contract with these benevolent institutions for the education of Indian children who live remote from Government schools, or those who are orphans, waifs, or destitute. Nothing has contributed to ameliorate the hard condition of the Indian in Alaska so much as the work of the missionary and the introduction of Government schools.

For a practical demonstration of this, I invite your attention to the Indian Training School at Sitka, which has been in successful operation for many years, under the very able supervision of the Rev. A. Austin, in which many native young men and women have been civilized, educated, and qualified for all the avocations of life and good citizenship.

Previous to the establishment of these schools the native's leading occupation was war, and revenge his only law. The Alaskan Indian is entirely self-supporting, is industrious and thrifty, receives nothing from the Government, asks for nothing, wants nothing, and it is to be regarded as a blessing that he has not been demoralized and pauperized by Government aid. The Government is put to no expense for the support of Indian agencies or the maintenance of forts or regiments of armed men on account of the Indians of Alaska. Kindness is better than force. Schools and missions are the great conservators of peace in this Territory; and, in view of the fact that the natives of Alaska receive no grants, subsidies, or annuities from the Government as the Indians do in other parts of the United States, Congress can not do less than to

make the appropriation for the education of children in Alaska large enough to establish a sufficient number of schools to give the major portion of their people a chance to acquire the rudiments of an English education. A new school house is urgently needed at Juneau City for the accommodation of white children, and should be built at once. Three other new school houses should be erected next summer, but the present appropriation will not be sufficient to meet the expense. I recommend that the appropriation for the education of children in Alaska for the fiscal year 1894–'95 be $60,000.

INTRODUCTION OF DOMESTIC REINDEER.

Dr. Sheldon Jackson, the general agent of education in Alaska, and who was the first Protestant missionary in Alaska, and by whose energy, fidelity, and good management both the mission and government schools were established and brought to their present state of usefulness and efficiency, is now engaged in the laudable work of importing domesticated reindeer into western Alaska from the tame herds of Siberia. For three years Dr. Jackson has made a voyage to Siberia each year with Capt. M. A. Healy on the revenue cutter *Bear*, without whose assistance nothing could have been done, and they returned each year with a number of domesticated reindeer which were landed at different points on the Alaskan coast. The animals suffered no damage by transportation and have wintered safely and have grown fat on the abundance of food found in that country suitable to their wants. It is claimed that the general introduction of this animal into that region will arrest the present starvation, and restock that vast country with a permanent food supply, and that by covering these great plains with herds of domesticated reindeer, it will be possible to support in comparative comfort a large population, and that a change from the condition of the hunter to that of the herder will be a long step upward in the scale of humanity and that it will hasten the elevation of the race from barbarism to civilization, and it is also claimed that the reindeer can be used as a means of transportation by which the interior of Alaska may be penetrated and explored. All of which claims I believe to be well founded.

For more than a hundred years after the discovery of western Alaska by Vitus Behring in 1742 that country supported a large population, and was swarming with sea otter and other fur-bearing animals, and was a mine of wealth to the Russians for more than a century, and of great commercial value and importance to all the civilized nations of the world.

Why not make an effort to reclaim this part of the country, and return it in part to its former commercial value and importance, when it can be done so cheaply, if taken in connection with our other important interests on the seal islands of St. Paul and St. George, which are in the immediate vicinity. The money to pay the expense of the first and second purchases of reindeer in Siberia was donated by philanthropic individuals. Congress on March 3, 1893, made an appropriation of $6,000 for that purpose, which was made immediately available, and was put to immediate use.

This summer Dr. Jackson made one voyage with Capt. M. A. Healy on the U. S. revenue cutter *Bear*, and Capt. Healy made several additional voyages during the same season to Siberia and the ship was freighted each time with domesticated reindeer purchased in Siberia

and landed in Alaska on the shore of the Behring Sea. This subject is worthy of the attention of Congress.

PUBLIC BUILDINGS.

At a nominal cost the several public buildings located at Sitka and Wrangell have been repaired and put in good order, and out of almost chaos these buildings have been reconstructed into handsome, substantial, and useful buildings. Such improvement had been so long felt necessary that they are greatly appreciated by the people.

That old log building, erected many years ago by the Russians at Sitka, and known as "The Castle," and about which clings many a legend and a multitude of historical events, had long been going into decay when, at a very reasonable expense, it has been transformed into a large two-story edifice of spacious rooms, and will be occupied by the United States district court, the United States commissioner's court, and other officials. It is situated on a bluff on the beach, some 60 or 80 feet above the surrounding town site, and from the observatory on its roof a magnificent view of Sitka, the bay, and its hundred of islands, together with a glimmering of the ocean beyond, can be had.

The other old Russian ruins at Sitka are too much decayed and are beyond repair, and while it has been wise and economical to have made these repairs already complete, yet it would be much cheaper to build anew than to attempt the further repair of the remaining ones.

The building at Wrangell known as the hospital has been recently put in good condition, and being repainted presents a very sightly appearance. The rooms in it are mostly large and airy. The first floor is occupied by the United States commissioner's court and offices. The second floor has been thrown into a large, nicely arranged Government schoolroom, accessible by an outside staircase. This building was built over twenty years ago. There are also several solid log houses at Wrangell that might with propriety be repaired. One, at least, should be selected and permanently arranged to accommodate the post-office business, as this is a distributing office for many points in Alaska and British Columbia, and the post-office should be in much better quarters than it is at the present time.

The spacious two-story house used by the customs officers at Wrangell is in fair order, but a few necessary repairs now would save a much larger outlay in the future.

THE ORGANIC ACT.

The act of Congress approved May 17, 1884, creating a civil government for the Territory of Alaska, did much to develop the country, promote civilization among the Indians, and advance the prosperity of the people. Courts were established for the administration of the civil law. The military rule which had prevailed from the time the country was first occupied by the United States Government was displaced by the civil authorities.

Population has increased, towns have been built, rich mines have been discovered, commerce has advanced, fishing and other industries are being developed to a very large extent, the territory has outgrown its swaddling clothes, and the organic act is no longer sufficient for the administration of justice and the enforcement of law and order, or the economical administration of government in the Territory. The peo-

ple of Alaska are intelligent, energetic, enterprising, and self-reliant, and whatever reforms they may ask Congress to inaugurate will be in the interest of good government and the prosperity of all.

We believe that it is the desire and the intention of the United States Congress to legislate justly and generously for the Territory of Alaska, and to enact such laws as will best promote the happiness of her people and the development of the country.

The great distance intervening between Alaska and the seat of Government at Washington, and the isolated location of the Territory renders it difficult for our national legislators to become acquainted with the needs of the district, or for any member of Congress to draft a bill that would be suitable to the wants of our people.

Several bills have been introduced into Congress that, had they become laws, our last condition would have been worse than our first.

No one but those who have resided in the Territory can appreciate our peculiar condition, or form an intelligent opinion as to the laws by which this Territory should be governed. Therefore I would recommend that Congress, either by joint resolution or by bill, empower the governor of the Territory to appoint a commission of five members who shall be residents of Alaska, and whose duty it shall be to formulate amendments to the organic act of May 17, 1884, and also to prepare a code of laws, both civil and criminal, for the government of the Territory; which amendments and code of laws shall be submitted to Congress for their approval, and unless approved by act of Congress, said amendments and laws shall be null and void. The United States district judge for the district of Alaska, and the United States attorney for the district of Alaska, shall be members of said commission; and the members of said commission shall serve without compensation, but clerk hire, printing, and traveling expenses shall be paid out of the Treasury of the United States, to the amount not to exceed $1,000.

Very respectfully yours,

JAMES SHEAKLEY,
Governor of Alaska.

The SECRETARY OF THE INTERIOR,
Washington, D. C.

REPORT

OF THE

PRESIDENT OF HOWARD UNIVERSITY.

HOWARD UNIVERSITY,
Washington, D. C., July 8, 1893.

SIR: In behalf of Howard University, I beg leave to submit the following report of its work for the year ending June 30, 1893:

As a part of this report, you will please regard the catalogue for 1892–'93, which I have the honor to submit. The Treasurer's report for the same period I have the honor, also, to submit.

From the catalogue you will see that the seven different departments of the university have been in active and successful operation, with an attendance of 512. Ninety-seven have completed the course in their respective departments. These students are from the District of Columbia, and almost every State and Territory in the Union; while some are from Africa, the West Indies, and Japan. They are drawn here partly because of the great libraries and scientific institutions connected with the Government, and partly because so many departments of the Government afford them opportunities of self-help during the period of their studies. To be more specific, the different departments are:

First. The industrial, or manual-labor department, where 57 students have received instruction in printing; 61 in carpentry; 152 in mechanical drawing; 6 in bookbinding; 18 in tinning; 49 in sewing; total, 343.

The carpentry, tinning, and bookbinding have been especially valuable to the university in repairing buildings and in binding books and pamphlets.

The second department reported is the normal, in which are trained teachers for the common-school work, and where 185 have been in attendance and 12 have graduated.

The preparatory is the third department, where students are fitted for college, and where 62 have been in attendance and 12 have graduated.

The college is the fourth department, with its 33 students and 6 graduates.

The fifth is the medical department, where 134 have been in attendance, with 28 graduates.

The sixth is the law department, where there have been 49 students, with 33 graduates.

The seventh, the theological department, with 34 students and 4 graduates.

Owing to the fact that the theological department is wholly supported by benevolent funds from the American Missionary Association, the average expense to the Government of the teachers in all departments is less than $600 a teacher.

To students in the normal, industrial, preparatory, college, and theological departments, no charge is made for tuition; and the university collects funds in aid of students who need such assistance to the extent of about $50 per year. Board is furnished to all students at $8 per month. The law and medical departments are supported, in part, by funds of the university, and, in part, by income from tuition. The last two years, however, the Government has contributed to the support of the law department.

During the last year, from the amount granted by Congress, $23,500 have been expended in payment of the salaries of professors, teachers, and other regular employés of the university; $3,000 for tools, material, wages of instructors, and other necessary expenses of the industrial department; $500 for library books, bookcases, shelving, and fixtures; $500 for material and apparatus for chemical, physical, natural history, and laboratory work; $1,500 for repairs of buildings; $500 for improvement of grounds; making a sum total of $29,500.

The maintenance of our work at the present standard will require the same sum for the ensuing year. This is about $4,000 less than our estimate for 1893, and the same amount less than we actually expended.

I beg leave to call attention of the honorable Secretary of the Interior to the fact that during the past year the trustees have raised from the gifts of the benevolent and transferred from their investments and have expended on the erection of a new hall for the law department the sum of $12.247.33, and also have expended from their funds $11,250 for a new amphitheatre for the medical department. They very much need a new structure for the library and for anniversary assemblies as well as Sunday services, toward the erection of which a daughter of the late Hon. Luke P. Poland, of Vermont, has pledged $5,000; a bequest of J. H. Stickney, esq., of Baltimore, amounting to another $5,000, has been added by the trustees, and other benevolent gifts for the same purpose make the whole amount in hand $12,000. Last year your honorable predecessor recommended to Congress that the Government participate in the erection of this building to the amount of $10,000. Will you not, honored sir, make the same recommendation the present year? If it should be granted us we could proceed at once to erect the building, the amount estimated being about $24,000. This, in addition to the appropriation granted us last year, will make the sum essential to our best prosperity $39,500.

We believe, honored sir, that no work is more important to the welfare of the country than we are doing. A thoroughly educated man exerts a conservative influence wherever he goes. We believe that to be the record of our students, a large portion of whom are teachers.

The appropriation bill requires the proper officers of the university to report how the appropriation is expended, and in compliance with these requirements I have the honor to add the following:

The President of the university, who receives $4,000 per year, with the use of a house, was paid from the Government appropriation	$2,800.00
The secretary, treasurer, and business manager, whose annual salary is $2,000, was paid from the appropriation	1,600.00
Six professors in the college, preparatory, and normal departments, whose annual salaries are $1,500 each, with the use of a house, received from the appropriation, each, $1,350	8,100.00
One professor, who receives $1,200 per annum, with the use of rooms, was paid from the appropriation	1,080.00
One professor, who receives $1,000 per year, was paid from this appropriation	900.00
Two lady teachers, who receive $800 per year each, were paid from the appropriation $720 each	1,440.00

One teacher, whose salary is $1,000 per annum, was paid from the appropriation	$800.00
One lady teacher, who receives $900 per year, was paid from the appropriation	810.00
One lady teacher, who receives $600 per annum, was paid from the appropriation	360.00
One teacher, whose salary is $700 per annum, received from the appropriation	630.00
One teacher whose salary is $600 per annum, received from the appropriation	540.00
One teacher, who receives $500 per year, was paid from the appropriation	300.00
One librarian, who receives $500 per year, was paid from the appropriation	400.00
A matron, whose annual salary is $600, was paid from the appropriation	540.00
Two professors in the law department were paid from the appropriation each $1,000	2,000.00
Two professors in the law department were paid from the appropriation each, respectively, $800 and $400	1,200.00
Total for salaries	23,500.00
The sum of $3,000 appropriated for the manual-training school was insufficient to pay all of its expenses. The instructors in this department were paid	2,420.00
Janitor and fireman received	172.43
The remainder spent for materials, tools, and supplies	407.57
Total for industrial department	3,000.00
The university spent the sum of $3,178.47 for repairs of which Congress appropriated	1,500.00

The small sums for library books, chemicals, apparatus, etc., and the improvement of grounds, were used for the purposes for which they were asked, greatly to the improvement of the university in its various branches.

The treasurer's report of all receipts and expenditures for the current year, a copy of which is forwarded herewith, will exhibit the workings of the institution much better than can be written in any other form, showing as it does the source from which all moneys of various kinds applicable to current expenses are received, and the application of the same.

Commending the university to the generous consideration of the Government, I am, very respectfully,

J. E. RANKIN,
President.

Hon. HOKE SMITH,
Secretary of the Interior.

Treasurer's statement of receipts and disbursements from July 1, 1892, to June 30, 1893, pertaining to current expenses.

RECEIPTS.

Balance on hand July 1, 1892	$44.86
From United States:	
For salaries	23,500.00
For industrial department	3,000.00
For chemical apparatus	500.00
For library books	500.00
For repairs	1,500.00
For grounds	500.00
From rents	5,086.64
From income from invested funds	9,634.09
From American Missionary Association (including donations and Stone endowment) for theological department	4,600.00

From donations for prizes and other objects	$56.00
From room rents	1,527.80
From miscellaneous sources	320.89
From industrial department, proceeds of shops	234.11
From medical department, income and tuition, including $132 interest on Stevens fund	7,710.00
From law department, tuition	1,892.00
	60,606.39

EXPENSES.

Paid officers, professors, teachers, etc., including $8,610 for pay of medical faculty and other expenses of medical department; $2,832 for pay of law faculty and other expenses of law department; $4,600 for theological department instruction; and $1,709.28 for janitors and firemen	45,632.74
Paid industrial department	3,226.29
Paid for chemical apparatus, etc	500.00
Paid for library books	504.71
Paid for repairs of buildings, labor, etc	3,178.47
Paid for fuel and gas	1,420.68
Paid for improvement and care of grounds	744.57
Paid for insurance	912.15
Interest transferred to aid fund	1,200.00
Debt of June, 1892	600.00
Incidental expenses (including furniture, stationery, diplomas, telephone service, advertising, miscellaneous labor, and other expenses of a general character)	2,680.85
Balance on hand June 30, 1893	5.93
Total	60,606.39

COLUMBIA INSTITUTION FOR THE DEAF AND DUMB.

OFFICERS OF THE INSTITUTION.

Patron.—GROVER CLEVELAND, President of the United States.
President.—EDWARD MINER GALLAUDET, Ph. D., LL. D.
Secretary.—JOHN B. WIGHT, Esq.
Treasurer.—LEWIS J. DAVIS, Esq.

Directors.—Hon. EDWARD C. WALTHALL, Senator from Miss.; Hon. WILLIAM L. WILSON, M. C. from West Va.; Hon. NELSON DINGLEY, Jr., M. C. from Me., representing the Congress of the United States. Hon. HENRY L. DAWES, of Mass.; Hon. JOSEPH R. HAWLEY, of Conn.; Rev. BYRON SUNDERLAND, D. D.; Hon. JOHN W. FOSTER; Hon. J. RANDOLPH TUCKER; JAMES C. WELLING, LL. D.

COLLEGE FACULTY.

President and Professor of Moral and Political Science.—EDWARD M. GALLAUDET, Ph. D., LL. D.
Vice-President and Professor of History and Languages.—EDWARD A. FAY, M. A., Ph. D.
Emeritus Professor of Mental Science and English Philology.—SAMUEL PORTER, M. A.
Professor of Natural Science.—Rev. JOHN W. CHICKERING, M. A.
Professor of Mathematics and Chemistry.—JOSEPH C. GORDON, M. A.

Professor of History and English.—J. BURTON HOTCHKISS, M. A.
Professor of Mathematics and Latin.—AMOS G. DRAPER, M. A.
Instructor in Mathematics.—CHARLES R. ELY, M. A.
Instructor in Gymnastics.—ALBERT F. ADAMS, B. A.
Instructor in Drawing.—ARTHUR D. BRYANT, B. Ph.

DEPARTMENT OF ARTICULATION.

Professor in Charge.—JOSEPH C. GORDON, M. A.

ASSISTANTS.

Normal Fellows.—SETH W. GREGORY, B. A., Beloit, Wis., 1893; HARVEY P. GROW, B. A., Western Maryland, 1893; BARTON SENSENIG, B. S., Haverford, Pa., 1893; MARCUS P. McCLURE, B. A., Parsons, Iowa, 1893.

Instructors.—MARY T. G. GORDON, KATE H. FISH, CHARLES R. ELY, M. A.
Normal Student.—EMMA POPE, Maryland.

FACULTY OF THE KENDALL SCHOOL.

President.—EDWARD M. GALLAUDET, Ph. D., LL. D.
Instructors.—JAMES DENISON, M. A., Principal; MELVILLE BALLARD, M. S.; THEODORE A. KIESEL, B. Ph.; SARAH H. PORTER.

Instructors in Articulation.—MARY T. G. GORDON, KATE H. FISH.
Instructor in Drawing.—ARTHUR D. BRYANT, B. Ph.

DOMESTIC DEPARTMENT.

Supervisor and Disbursing Agent.—WALLACE G. FOWLER.
Attending Physician.—D. K. SHUTE, M. D.
Consulting Physician.—N. S. LINCOLN, M. D.
Matron.—Miss ELLEN GORDON.

Associate Matron.—Miss SARAH D. GIBSON, B. S.
Master of Shop.—ALMON BRYANT.
Farmer and Head Gardener.—EDWARD MANGUM.

REPORT

OF THE

COLUMBIA INSTITUTION FOR THE DEAF AND DUMB.

COLUMBIA INSTITUTION FOR THE DEAF AND DUMB,
Kendall Green, Washington, D. C., October 14, 1893.

The pupils remaining in this institution the 1st of July, 1892, numbered 80; admitted during the year, 34; since admitted, 26; total, 140. Under instruction since July 1, 1892, 93 males; females, 47. Of these, 83 have been in the collegiate department, representing twenty-three States, the District of Columbia, and Canada, and 57 in the primary department.

A list of the names of the pupils connected with the institution since July 1, 1892, will be found appended to this report.

HEALTH.

No serious cases of illness have occurred among the pupils during the year. Excellent health has been the rule, exceptions to which have been slight.

COURSE OF INSTRUCTION AND LECTURES.

No essential change has taken place in the general course of instruction since 1887, when, in our thirtieth report, a detailed statement of the branches taught in both school and college was published.

During the year special lectures have been given as follows:

IN THE COLLEGE.

The History of a Notable Family in Italy, France, and America, by President Gallaudet.
Industrial and Technical Instruction in Europe, by Prof. Gordon.
The Functions of Banks, by Prof. Porter.
A Lump of Coal, by Prof. Chickering.

IN THE KENDALL SCHOOL.

Statesmen of the Civil War, by Mr. Ballard.
Rambles in Germany, by Mr. Kiesel.
A Trip Down the Ohio and the Missouri, by Mr. Tilton.
Great Clans and Little Clans, by Mr. DeLong.
An Episode in the History of Texas, by Mr. Rives.
Napoleon Bonaparte, by Mr. Stewart.
Death of Gen. Custer, by Mr. Brown.
Frederick the Great, by Mr. McIlvaine.
A Trip to Europe, by Mr. Stafford.
Rudder Grange, by Mr. Seaton.

CHANGES IN THE CORPS OF OFFICERS.

Miss Margaret Allen, who for eighteen years has filled acceptably the position of assistant matron, resigned her office in June last.

Miss Allen's long and faithful service in the institution, and her unvarying amiability of disposition, had secured for her the most friendly regard of all her associates and of the many young people who had been under her care as students and pupils.

As an evidence of this regard Miss Allen's friends presented her with several pieces of silver on the closing day of the term. The best wishes of her associates and friends follow her into the restful retirement she so well deserves.

Miss Sarah D. Gibson, of Indiana, a graduate of Monmouth College, who has filled with success and honor the position of matron in the Wisconsin and Illinois institutions for the deaf, has been appointed associate matron and entered upon the discharge of her duties in September.

DEATH OF HON. WILLIAM E. NIBLACK.

The management of the institution sustained a grievous loss in May last through the death in Indianapolis of Hon. William E. Niblack, who had been for nearly twenty years continuously a member of the board of directors of the institution.

Judge Niblack was appointed as a director on the part of the House of Representatives in January, 1874, by Hon. James G. Blaine, who was then Speaker. He served in that capacity until March, 1875, when, on his retirement from Congress, he was elected a corporate director, which office he held up to the time of his death.

Judge Niblack's services on the board were most valuable and helpful to the institution, both while he was a member of Congress and afterwards. His interest in extending the benefits of collegiate education to the deaf of the whole country was always most earnest, and he advocated liberal appropriations by Congress for the college several years before he had any direct share in its management.

During the later years of his life Judge Niblack, though often suffering from ill health, made it a point of duty to attend meetings of the board at least once a year, and endeared himself to all connected with the institution by the warm regard he manifested on such occasions for those who were doing the work of the institution as well as those who were the objects of its care.

Judge Niblack will be long remembered here as a most faithful and efficient advocate of the cause of the deaf in Congress, a wise and liberal counsellor in the board of directors, and as a kind and loving friend.

By his associates on the board he will be especially missed and mourned.

PUBLIC EXERCISES OF PRESENTATION DAY.

The annual public exercises of the college took place on the 26th of April.

The Rev. Samuel Van Vranken Holmes, assistant pastor of the First Presbyterian church, offered prayer, and the essays of the graduating class were as follows:

ORATIONS.

The Ideal Man, Robert Merriwether Rives, Texas.
Architecture, Philip Herbert Brown, New York.
Perils to Our National Life, John Addison McIlvaine, jr., Pennsylvania.
Success in Business, Charles Drake Seaton, Illinois.
Civilization, Liberty, and Law, James Mulford Stewart, Michigan.
The Social Discontent, Harvey Daniel DeLong, Pennsylvania.

National Ownership of Railroads, Henry Lathrop Stafford, Michigan.
Æschylus and Shakespeare, William Imily Tilton, Illinois.
The Intellect of Woman, Agatha Mary Agnes Tiegel, Pennsylvania.

DISSERTATIONS.

The Policy of Cardinal Richelieu, Gurney Yearick Hosterman, Pennsylvania.
The Future of Canada, Michael Madden, Tennessee.
The New South, Alton Odom, Tennessee.

Candidates for degrees recommended by the faculty were presented to the board of directors, as follows:

Degree of Master of Arts (*Normal Fellows*).—Percival Hall, B. A., Harvard, 1892; John F. Bledsoe, B. A., Howard, Ala., 1892; Andrew P. McKean, B. A., Williams, 1892; Tunis V. Archer, B. A., Hanover, Ind., 1892.

Degree of Bachelor of Arts.—Philip Herbert Brown, Harvey Daniel DeLong, Gurney Yearick Hosterman, John Addison McIlvaine, jr., Alton Odom, Robert Merriwether Rives, Charles Drake Seaton, Henry Lathrop Stafford, James Mulford Stewart, Agatha Mary Agnes Tiegel, William Imily Tilton.

Degree of Bachelor of Science.—Michael Madden.

Normal Students, 1892–'93.—Delia Bartoo, Illinois; Thomas S. McAloney, Belfast, Ireland.

In presenting the candidates for degrees the president of the college spoke of the continued success of the new features of the last year, the normal department and the department of articulation.

He also alluded to the interesting fact that Miss Tiegel, of western Pennsylvania, was the first young woman to receive the degree of B. A. from the college, and that in a class of twelve, the largest yet graduated. She outranked all her classmates in scholarship. The president of the college then introduced President Gilman, of the Johns Hopkins University at Baltimore, who delivered the following address:

PRESIDENT GILMAN'S ADDRESS.

I remember to have heard it said by the Hon. James Brooks (for many years a member of Congress from the State of New York, and one of the directors, I am reminded, of this institution), that there would be no more good speaking in Congress, for everybody who stood there was not only conscious of the audience before him to whom his remarks were directed, but likewise was mindful of the stenographer taking down every word, including every slip; but that, he continued, is not the worst of the situation; the speaker can hear the click of the telegraph and he knows that a condensation of what he says is being telegraphed all over the land, and that he shall find it in the evening newspaper when he leaves the Capitol.

I am under a similar embarrassment.

As I speak I can not escape the consciousness that a sort of "dumb crambo" is going on [laughter] close by me in which you are very much more interested than in what my lips may utter. [Laughter.]

We have been reminded that this is "Presentation day," and by this historic term, my thoughts have been carried a good way back. I happened, this morning, to notice an account of how they managed things at Harvard College in 1693—two centuries ago.

I found that the "overseers" on the corporation solemnly came together and reached this important conclusion on the subject of college education. It was then and there decreed that the senior class, the "commencers," as they were termed, of Harvard College, "should not have plum cake." [Laughter.] This was a luxury, even in those days, and it was necessary for the authorities to intervene and protest, partly because of the expense which would fall upon the parents, and partly because "it was not graceful to wise men." [Laughter.]

You will not get any plum cake therefore on this occasion, for I should not dare to violate so old a tradition. [Laughter.]

The remark that this is "Presentation day" makes me remember that almost all of our college terms go a good way back. "Commencement" is a very old term. "Professor" is as ancient as the days of Greece. The phrase, "a liberal education," was used with fitness by the first speaker, to whom, shall I say, we "listened" or, whom we "witnessed" [laughter], in the early part of this hour?

It was also employed by the young lady who read the closing essay. Now, this phrase, "liberal education," is likewise a very old one. It has lately been traced

back by Thomas Davidson, in his life of Aristotle, through the various stages by which it has come down to us from the remote antiquity. Dante, for example, summed up the liberal arts which constitute a liberal education, and found a counterpart in the heavenly bodies for each one of them, and pointed out their spiritual significance as dominions and powers and principalities governing the spiritual nature of man. But the phrase goes farther back than Dante.

You may trace it to the ancient Romans, even to the days of the Greeks, and possibly the mediæval writer is correct who says that the idea of seven liberal arts is taken from the book of Proverbs, where we read that "Wisdom has builded her house, and has hewn out the seven pillars thereof."

It is noteworthy that while the phrase "liberal education" is so familiar and the phrase "the liberal arts" is hallowed with so great antiquity, we are all the while discussing the principles of collegiate education.

It is so at any rate in the institutions with which I have been connected. It is so I believe in every active circle at home or abroad. The whole world seems to be taking up afresh, at the end of the nineteenth century, the question of how can we modify and improve the elements of a liberal education.

Not long ago the authorities of Harvard made a protest, which attracted attention throughout the land, because students entering Harvard did not know how to write the English language, and they published facsimiles of the answers given by various young men as they came up for admission in reply to the inquiry as to their training in the mother tongue. The pamphlet made a great sensation, but no sooner did it appear that the college authorities were throwing the blame upon the secondary schools than some secondary school-teachers came out and said that the blame rested with the primary schools. Pretty soon we had the primary school-teachers saying "the fault is not ours, it is the fault of the parents."

I know every parent will say that the fault is with the grandparents [laughter]; and so we shall trace it farther and farther backward until we get to Father Adam himself. Beyond, there is no farther. [Laughter.]

Meanwhile we shall be involved in an everlasting discussion as to which has the most influence on mankind, heredity or environment; what he receives from the past or what he gets from the present.

I must not, however, be diverted from my purpose, which is to arrest the attention of the friends of this college, and of the friends of other colleges, to the thought that we must never lose sight of the great idea of "liberal" education. It is not antagonistic to useful education, nor are the liberal arts opposed to the useful arts. The two go hand in hand, because there is no utility without enjoyment, and but little enjoyment without utility. A man can not cultivate all of the powers of his mind without being prepared for the emergencies of life. He will never be prepared to enjoy full mental freedom unless he has trained all the powers which God has implanted in him.

So we must look out, in our own plans for education and our mutual recriminations, the higher school blaming the lower and the lower blaming the higher, that we maintain the spirit of liberal culture; everyone of us should learn how to observe closely; everyone of us should learn how to classify his knowledge. Everyone of us should learn how to remember tenaciously that which he has acquired; everyone of us should be able to express his ideas with clearness and everyone should have a trained judgment; and these are the five ends for which a liberal education is provided.

If you ask what are the liberal arts by which we acquire this education, let me remind you that it is important to master our own tongue first, in order that we may communicate with one another; next we must understand the society in which we are placed—all the manifold social circumstances by which we are surrounded, including especially the characteristics of our Government; next we must become familiar with the phenomena, processes, and laws of nature; then we must learn something of other tongues and of other times, so that we may derive from the past the lessons of antiquity and gather from distant places the instruction they may bestow; and finally, we must learn something of the great literatures of the world, and seek for glimpses of the things beyond this world which we get from reason and revelation.

This liberal education, then, is to be acquired only by great efforts. I suppose if any one of us should attempt to make his own methods applicable to his neighbor he would find the task impossible. No one exists who does not have some obvious limitation, some conscious defect. You have only to read the lives of great men to see how this is. Take, for example, the life of Darwin, one of the wisest and greatest of modern scientific men, and see how he lost the love of poetry and romance which in youth he had enjoyed. Look at others, and you will see that they are equally blind in other directions. Ralph Waldo Emerson could not endure the study of mathematics, and James Russell Lowell did not go through the ordinary curriculum

without breaking away from its channels and wandering through the fields of literature.

When the National Academy of Sciences was here the other day, I am told, a gentlemen, whose face I see before me, interested the society beyond measure in his story of the education of Helen Keller and of the methods by which she was taught to communicate with other persons. Her case is an example of one of the most wonderful achievements of modern education. I do not think there is anything in the world to equal it. But I venture to tell you another story in this connection, which is probably not quite so familiar, though perhaps you have heard of it. It is the story of Arthur Kavanaugh, an Irishman of position and family, born without arms and legs, having only the stubs thereof, who by the force of his will, and by the skill of those who were placed over him, developed almost all the powers of a normal man.

Indeed, he went beyond most of us; he went into society, carried by his servants; rode on horseback, in a basket prepared for him; was a wide traveler, going far beyond the ordinary range of travelers, prosecuting his journeys into Persia and Egypt, everywhere enjoying what he saw. Not only that; he became extremely skillful in the manly arts; he was able to fire his gun with extreme accuracy, and could guide his horse, but he did not simply indulge in travel and sport; he became a good lawyer; entered Parliament and took part in the debates; wrote a book, and came home to his estates where he was a judge and dispenser of justice in local disputes.

That is a splendid illustration of what the force of will, when rightly guided and strengthened, may accomplish. It ought to be inspiring to the teacher of youth everywhere. No matter what limitations may be found in any case, help on the youth. If you only find the response of a strong will, results most satisfactory are sure to follow.

There is a phrase of Mr. Lowell's so appropriate to an occasion like this that I will quote it. Speaking of liberal education, or rather liberal arts, he says that "Everyone must serve his apprenticeship before becoming a free brother of the guild which passes the torch of life from age to age." That is indeed so. By the liberal arts we pass through an apprenticeship that makes us free brothers of the guild that passes the torch from age to age. It is to this free brotherhood, to this guild which will hand down the ideas of the past to those who come after us, that these young men, and this young lady, now presented for their degrees, may be heartily welcomed. To-day they enter the company of scholars; they commence to-day the academic career. And you, their teachers and curators, and you, the honorable president of this institution, may formally admit them to membership in this great, this enduring, this beneficent guild. [Applause.]

One word more before I sit down, regarding the progress of this institution. I must assure its instructors and its directors of the very great interest with which their proceedings are watched by all Americans who care for progressive education.

As I read from time to time its reports, as I confer from time to time with those concerned in its management, and as I see results accomplished here, I regard this institution as one of the most important, most useful, and most progressive in all our land. [Applause.]

I hope it will forever be sustained with the liberality which it deserves.

I particularly rejoice in two or three changes which have occurred since I was last here. Women are now admitted fully to its advantages, and I am extremely glad, as I have no doubt you have been, to hear that the young lady who graduates to-day stood on a perfect equality with the most advanced students among the young men. Young women always excel where they have equal advantages in academic careers. [Applause.] Of this there is no doubt at all. [Applause.]

Again I rejoice that this institution has what are termed normal fellowships, an arrangement by which persons of some maturity of character and thought, and of varied acquisitions can be trained for higher work, whether we call them post-graduates, or fellows, or by some other term. The fact that so many are intending to devote their lives to the instruction of deaf mutes, in this land or abroad, is most encouraging; it is a great step forward. Finally I have been amazed as I have been sitting here to see the students come up and address us with the lips; certainly it is a wonderful thing if those who are deprived of the ordinary hearing can be enabled to speak, to master the power of utterance, come before an assembly with composure, and utter with clearness even a few words to those within the sound of the voice.

One young man who addressed the company spoke nearly, if not quite, as distinctly and clearly, and as well as an ordinary speaker. I certainly think that these marks of progress are most admirable.

I congratulate you, ladies and gentlemen, that we have been allowed to see with our own eyes and hear with our own ears these signs of advancement in this great institution. [Applause.]

The exercises were closed with the benediction by Rev. Thomas Gallaudet, D. D., rector of St. Ann's Church for deaf-mutes, New York City. At the close of the academic year degrees were conferred in accordance with the recommendations made on presentation day.

The precedence in scholarship, which in April was given by the record to Miss Tiegel was at the end of the college year in June accorded to Mr. DeLong.

PUBLIC SPEAKING BY THE DEAF.

All but one of the members of the graduating class whose essays were read to the audience, and these were nine in number, addressed a few clearly intelligible words orally to the guests on the platform as they came forward.

The one who did not speak was quite able to do so, but asked to be excused on account of a natural timidity he could not overcome. One of the class, Mr. Tilton, of Illinois, delivered his entire oration orally in a voice that was heard and understood in all parts of the hall. Mr. Tilton became totally deaf in his early boyhood, and, after having been a short time in a public school, entered the Illinois Institution for the Deaf and Dumb, where he was a pupil for seven years. Graduating from the Illinois institution in 1888 he immediately entered the introductory class in our college, and has been a student here for five years. Both in Illinois and at Washington Mr. Tilton has had instruction in speech with a view to preserve unimpaired his power of vocal utterance. These efforts have been so entirely successful that few persons hearing him speak would think of his being a deaf man.

Mr. Tilton's case is alluded to thus particularly because it is persistently claimed and asserted by promoters and friends of the oral method of educating the deaf that to place a child, situated as Mr. Tilton was when he became deaf, in a school where the sign language is used will certainly lead to the impairment and probably to the loss of his vocal powers.

The public should know that these views are held and advanced only by those whose experience as teachers of the deaf is limited to the narrow field of a single method. Others who have the wider view, which comes from a knowledge of all the methods that are found to be of service, are perfectly well aware that the fears above referred to are without foundation.

Furthermore, they have learned that deaf children and youth secure distinct advantages in the way of mental development and power of thought and expression through a considerable use of the language of signs during their school life, advantages from the lack of which those to whom the use of signs has been denied are often found to suffer seriously in comparison with the others. Mr. Tilton's experience is by no means singular.

In the college and in the schools of the country in which, as in it the combined system is maintained, large numbers of children and youth who have acquired speech before becoming deaf are constantly to be found whose power of vocal utterance is, with a very moderate amount of care, easily and fully maintained, and even considerably improved.

THE DEPARTMENT OF ARTICULATION.

Instruction in speech has been continued in both school and college with increasingly satisfactory results. The system of classification

fully detailed in our last annual report has been continued. Every student and pupil is offered instruction, and only those are excused from work in this department who can without doubt occupy their time to better advantage with other things. Three students only in the college were so excused, and two of these were under instruction in speech for a part of the year. In the Kendall school only three pupils were without instruction in speech, and those will receive such teaching later on.

Among the college students there were seven who were born deaf, or who lost their hearing in very early childhood, who were absolutely without speech at the beginning of last year who, during the year, made remarkable advances in gaining control of their hitherto untrained vocal organs. One of them, who will not return, gained enough speech in his single year's training to enable him to converse at home with his family and to make oral utterance his means of communication in business. In this connection it ought to be said that friends of our students must not expect the college to do the work that should have been completed in the primary school. For those students who come to us without speech, time and strength will not suffice to secure advanced intellectual culture and also a complete mastery of speech, even where ability for the latter exists.

The main object of the college is to afford its students full opportunity for the greatest advances they can make in practical scholarship. But it is our purpose, and we are confident we now possess the teaching force necessary to this end, to preserve unimpaired to all our students whatever powers of speech and speech reading they may bring with them to the college.

Orally taught deaf persons need not have the slightest fear that in taking places in a college where the language of signs and the manual alphabet have their proper and necessary places and uses, any risk will be run of losing, even to a slight degree, their dearly bought and highly valued power of vocal utterance.

THE NORMAL CLASS.

This new feature of the work of the institution, begun in September, 1891, has progressed with gratifying success during its second year.

There were five young men and one young woman in the class. They all had full opportunity to become well acquainted with the manual and the oral methods and to do much practical work on both those lines in the class rooms of the college and the school.

The course of training afforded to the normal students was substantially the same as that of the first year, which was fully set forth in our last report.

PROPOSED TECHNICAL DEPARTMENT.

At the conference of superintendents and principals of American schools for the deaf, held at Colorado Springs, in August, 1892, a proposal for the establishment of "a National technical training school for the deaf" was presented for discussion by Mr. F. D. Clarke, the superintendent of the Arkansas institution, now superintendent of the Michigan institution.

The project was considered with favor by the conference, and a committee, consisting of Mr. Clarke, Dr. Gallaudet, of this institution; Mr. Caldwell, of Florida; Mr. Johnson, of Indiana, and Mr. Crouter of Pennsylvania, was appointed to take the matter into consideration and report at a future meeting of the conference.

This committee, through its chairman, Mr. Clarke, made a report to the conference at a special meeting held in Chicago on the 24th of July last, as follows:

Whereas a committee appointed by the conference of principals at Colorado Springs in 1892 has had the subject of the technical and manual training of the deaf under consideration the past year, and has reported that the establishment of a separate school for this purpose at this time is impracticable, and that there does seem to be a chance to get a sufficient appropriation from Congress to establish a department in the National Deaf-Mute College for the higher technical education of the deaf: Therefore

Resolved, That the establishment of a department for the technical education of the deaf at the National Deaf-Mute College is very much to be desired for the good of all the deaf in America.

Resolved, That this conference earnestly request the directors and faculty of the college to establish a technical department, and to apply to Congress for a sufficient appropriation to meet the expense of such a department.

Resolved, That we pledge ourselves to aid in the establishment of this department in every way we can.

Resolved, That the secretary of this conference be requested to send a copy of these resolutions to the college authorities.

The resolutions were unanimously adopted by the conference, and on motion of Dr. Noyes, of Minnesota, it was voted—

That the secretary be requested to send a copy of the above resolutions to all the superintendents and principals of schools for the deaf in the United States, and that they communicate with their Senators and Representatives in Congress upon this important matter.

The faculty of the college, after a full consideration of this project, at a recent meeting unanimously voted: That the president be authorized to communicate to the board of directors their approval of the request of the conference of principals in regard to the establishment of a technical department, and their belief that such a department would be of great service to many of the deaf.

The following communication has been received from the alumni association of the college:

OCTOBER 12, 1893.

To the President and Board of Directors of the Columbia Institution for the Instruction of the Deaf and Dumb, Washington, D. C.:

GENTLEMEN: As a committee representing the alumni association of the National Deaf-Mute College, we respectfully present to the consideration of your honorable body the accompanying preamble and resolution, adopted by the alumni association at a meeting held in Chicago, Ill., on July 21, 1893:

"Whereas there has been wide public expression of opinion in favor of the establishment of a technical school for the higher manual training of the deaf; and,

"Whereas the National Deaf-Mute College was originally intended to afford to the deaf of America a higher education in the full sense of the term: Therefore, be it

"*Resolved*, That the alumni association of the National Deaf-Mute College, assembled in convention in Chicago, Ill., July 21, 1893, do hereby respectfully recommend to the board of directors of said college the establishment of a technical school as a department of the college."

In presenting these resolutions permit us to add that from the time of its inauguration in 1864 to the present day the college has worthily filled the high position to which, by general consent, its works have entitled it—the center of all higher education for the deaf in the world.

But the alumni feel that the tendencies of the age demand, in order that the college may attain satisfactory results in its students, that the curriculum should be broadened to include, in addition to the school of arts, a school of technical instruction, wherein would be afforded the training necessary for the application of the sciences to industrial ends. The experience of individual alumni in the open competition of life has indicated the need of such a school as a department of the college. It would certainly afford the graduates an opportunity to follow more independent, lucrative, and honorable callings than are now generally open to them; and it is as much from a consideration of this phase of the subject as the desire that the alma mater should reap the glory offered in this new field, one never before opened

to the deaf of our country, that the alumni have taken the liberty of thus presenting the subject to your attention.

In the name of the alumni of the National Deaf-Mute College,
Respectfully submitted.

THOMAS F. FOX, *1883, New York, Chairman,*
DAVID S. ROGERS, *1873, South Carolina,*
OLOF HANSON, *1886, Minnesota,*
Committee.

The subject thus presented has received our careful consideration and we are of the opinion that the proposal to add a technical department to our college is deserving of the favorable action of Congress.

There can be no question as to the great benefits which would be gained by very many youths of our country through the establishment of a school of technology for the especial benefit of persons who have the misfortune to be deaf.

It is true that a few deaf youth have entered schools of this character established for the hearing and have been profited by their connection with them.

It must be admitted, however, that in such surroundings the totally deaf student suffers many disadvantages, and in no case can he pursue his studies with the success which would be the rule in an institution where his means of communication with his instructors would be as ready and exact as though he could hear.

Opportunity to study architecture, practical chemistry, electrical and mechanical engineering, surveying, ornamental gardening and floriculture, application of art to manufactures, and other branches which might be found practicable in a technical department here, would most beneficently widen the field of possible employment to the more intelligent of the deaf of the country.

The last building erected in pursuance of Congressional action was mainly intended to provide room for a chemical laboratory and a printing office. There is, however, in this building, some space unoccupied at present, and with a moderate outlay an addition could be erected which, with the existing vacant rooms, would provide for the proposed technical department for some years to come.

The increased current expense incident to the establishment of this department would be very small compared with the cost of carrying on a separate institution; for the technical students would need much of the training now given in our college classes, and their admission to them would entail no additional expense whatever.

The additional annual cost of the proposed department would not exceed $2,000 the first year, and would certainly not rise above $5,000 for a number of years to come.

RECEIPTS AND EXPENDITURES.

The receipts and expenditures for the year under review will appear from the following detailed statement:

SUPPORT OF THE INSTITUTION.

RECEIPTS.

Balance from old account	$839.46
Received from Treasury of the United States	61,000.00
Received for—	
Board, tuition, and room rent	6,563.92
Work in shop	378.02
Damage to grounds	3.00
Old carpet sold	3.00
Received from manual-labor fund	590.00
Received for hay, vegetables, and pigs sold	312.52
	69,689.92

SUPPORT OF THE INSTITUTION—Continued.

EXPENDITURES.

Expended for—	
Salaries and wages	$35,474.95
Miscellaneous repairs	2,873.36
Plumbing, sewerage, and repairs on furnaces	814.34
Steam heating	140.64
Painting exterior and interior	1,102.50
Household expenses, marketing, etc	3,655.06
Meats	4,527.67
Groceries	3,137.25
Bread	1,693.60
Butter and eggs	2,415.51
Medical attendance	270.75
Telephone rental and electric clocks	155.95
Furniture	331.83
Lumber	1,057.44
Dry goods	535.29
Gas	1,182.76
Paints, oils, etc	324.22
Feed	1,162.13
Printing	247.80
Medicines and chemicals	219.79
Books, stationery, and school apparatus	479.67
Hardware	431.39
Fuel	2,819.57
Plants and seeds	232.90
Blacksmithing	145.75
New wagon and repairs	363.25
Ice	568.59
Manure	200.15
Live stock	652.35
Harness and repairs	167.10
Entertainment of pupils	84.26
Incidental expenses	136.96
Crockery, etc	332.35
Traveling expenses, president to conference of principals in Colorado and delegation to convention at Lake George	183.94
Stamped envelopes	43.80
Potatoes	267.50
Lectures	110.00
Expense auditing accounts	300.00
Traveling expenses for Delaware pupils	17.10
Material for printing office	203.43
Gymnasium apparatus and clothing	183.00
Expense of exhibit at World's Fair	297.96
Balance	146.06
	69,689.92

ESTIMATES FOR NEXT YEAR.

The following estimates for the fiscal year ending June 30, 1895, have already been submitted:

For the support of the institution, including salaries and incidental expenses, for books and illustrative apparatus, and for general repairs and improvements, $65,000.

For special repairs to the buildings of the institution and to complete the inclosure of the grounds, $5,000.

For additions to the buildings of the institution, to provide additional dormitory accommodations, and rooms in which to carry on instruction in the mechanic arts and useful industries, $30,000.

The estimate for current expenses is larger by $2,000 than that for the current fiscal year.

The necessity for this small increase results from the operation of the law of August 30, 1890, which brings into our collegiate department a steadily increasing number of students from the States.

The amount asked for repairs and the inclosure of the grounds is absolutely necessary for the proper preservation and care of the property of the institution.

The estimate of $30,000 for the enlargement of buildings is mainly to provide increased accommodations for our female students and pupils, the number of which is steadily growing.

The rooms available for our girls and young ladies are now overcrowded. Forty persons are lodged where not over twenty should be placed, and we have reason to expect that the number in this depart ment will steadily increase.

It is our purpose, should the $30,000 asked for be appropriated, to use a part of the money for the enlargement of the laboratory building for the accommodation of the proposed technical department, the scheme for which has already been explained in this report.

EXHIBIT OF THE INSTITUTION AT CHICAGO.

Pursuant to an invitation given to all the schools for the deaf in the United States and Canada to contribute to a collective exhibit of such schools at the Columbian Exposition, the president of this institution was authorized to prepare and forward to Chicago an exhibit which might give visitors at the Exposition some idea of the buildings, grounds, resources, and workings of our several departments, the expense of which should not exceed $500.

Through the courtesy of the sculptor, Daniel C. French, a replica in plaster was exhibited of the beautiful statue in bronze of the founder of deaf-mute education in America, which adorns the grounds of this institution.

This work of art, it will be remembered, was presented in 1889 by the deaf mutes of every State and Territory of the Union.

In a description of the collective exhibit, published in the October, 1893, number of the American Annals of the Deaf, the following paragraph appears:

> The statue occupying a central position in the exhibit, the pedestal bordering on the boundary line of one of the main aisles running north and south the entire length of the building of manufactures and liberal arts, challenges the eyes of the passers-by, bids him pause, and by the mystery of poetic beauty and artistic touch, stirs something in the heart which rises to the brain and causes him to look at the whole exhibit. This statement is not hyperbole, but plain prose. I have in my possession the written words of one the most cultivated of the journalists of Chicago, who, after a long study of the statue, approached me and said, "It tells such a grand story." On my remarking that I was happy to meet a man who had the poetic insight to read between the lines, he said, "As I stood there the moisture came into my eyes, and as I am a newspaper man, you may perhaps understand what power there must be to move me so."

The exhibit of this institution included a large collection of photographs of the buildings and grounds, groups of officers and students, and interior views, taken by Mr. Ranald Douglas, of Livingston, N. J., a former student of the college; samples of photography, architectural designs, art work in crayon, charcoal, oil, water colors, and pen and ink by present students and pupils; elaborate architectural designs and portraits in pastel and crayon by former students; volumes of reports and catalogues in which our courses of study were fully detailed; a volume of "Buff and Blue," the periodical edited and printed by the college students, and an interesting piece of mechanism invented by Mr. Denison, the principal of our Kendall school, to facilitate the teaching of fractions.

The editor of the Annals makes the following comment on the article in his journal describing the collective exhibit:

The writer [who is Mr. Goodman himself] does not mention the best contribution of the national college to the exhibit. This is the daily presence of its graduate, Mr. Lester Goodman, the writer of this article, who is in charge of the collective exhibit, and by his high intelligence, ready courtesy, and facility in communication adds greatly to the interest and pleasure of visitors. The Illinois institution shares with the college the honor of this part of the exhibit, and all the schools for the deaf, whether directly represented in the exhibit or not, have a share in its benefit.

CONGRESSES AND MEETINGS AT CHICAGO.

The occasion of the World's Fair and the action of the organization known as the World's Congress Auxiliary led to a number of meetings in the interest of the deaf, all held at Chicago, during the month of July last, in which the officers and graduates of this institution took more or less conspicuous parts.

The world's congress of instructors of the deaf was attended by more than two hundred teachers actively engaged in the work, among whom were delegates from England, Scotland, Ireland, and Canada. Sixty-two papers were read on thirty-five different topics, all on the invitation of a committee of arrangements. Nine of these papers were from officers of this institution and seventeen from graduates of the college, all but one of whom are instructors in the schools of this country and Canada.

The world's congress of the deaf was larger in numbers than that of the instructors, and included delegates from Ireland, France, Germany, Austria, and Sweden. Out of the forty-nine papers presented, fifteen were from graduates and former students of the college.

Among the many subjects of interest to the deaf considered by the congress, the question of methods was discussed, and the following resolution was unanimously adopted:

Resolved, That it is the sentiment of this congress that the combined system is the one proper and perfect method of educating the deaf, and that its adoption be recommended to all schools where it is not yet observed.

The mover of the resolution remarked in presenting it, that it had the unanimous approval of the delegates from foreign countries.

When it is known that in this congress of educated deaf persons there were many graduates of oral schools, the unanimity with which the resolution was adopted is significant. The attitude taken on this question by one of the most important meetings of educated deaf mutes ever convened is gratifying to the officers of this institution, for it is here that the combined system was faithfully advocated more than twenty-five years ago as that best adapted to secure the greatest good of the greatest number of the deaf. How generally this system prevails in America will appear when it is stated, as found in the tables of the American Annals of the present year that out of 8,622 pupils in attendance 7,620, or more than 88 per cent, were in schools conducted on the combined system.

The American Association to Promote the Teaching of Speech to the Deaf held its third summer meeting in Chicago from the 14th to the 28th of July, at the buildings of the University of Chicago. This institution was represented by six delegates. Owing to the fullness of the programme arranged for the congresses, this association held no formal meetings for the discussion of methods and processes of instruction.

Its action in securing the university as a place where all interested in the education of the deaf could obtain comfortable quarters at moderate expense while visiting the exposition and attending the congresses, was most highly appreciated. And the cordial hospitality of the founder and president of the association, Prof. Alexander Graham Bell, in giving a reception at the university on Saturday, July 22, to the members of all the associations and congresses then meeting in Chicago, will long be remembered most pleasantly by the guests on that occasion.

All of which is respectfully submitted, by order of the board of directors.

EDWARD M. GALLAUDET,
President.

Hon. HOKE SMITH,
Secretary of the Interior.

APPENDIX.

CATALOGUE OF STUDENTS AND PUPILS IN THE COLLEGE.

From Colorado.

Paul D. Hubbard.
Max Kestner.
Sarah Maria Young.

From Connecticut.

Harry S. Lewis.

From Delaware.

Bertha M. Whitelock.

From Georgia.

Albert H. Sessomns.

From Illinois.

Benjamin F. Jackson.
Charles D. Seaton.
William I. Tilton.
Clarence A. Murdey.
Frank E Sahlberg.
George B. Whitlocke.
Robert L. Erd.
Helena Rose Leyder.

From Indiana.

Theodore Hoetz.
John Walsh.
Alfred H. Robbins.

From Iowa.

David Ryan.
Christina Thompson.
William Miles Wright.
Arnold Kiene.
William G. Ashman.
John H. Brockhagen.
George H. Cummings.
Elijah A. Kile.
Oscar Duea.
Lilla E. McGowan.
Waldo Henry Rothert.

From Kentucky.

Max Nathan Marcosson.
David Ware Wilson.
William E. Dudley.
Robert Zahn.

From Louisiana.

Ross E. Nicholson.

From Michigan.

James M. Stewart.
Harry L. Stafford.
Albert J. Eickhoff.

From Minnesota.

Ralph H. Drought.
Jay Cooke Howard.
Herbert C. Merrill.
Thomas Sheridan.
James S. Bowen.
Maria E. Patenaude.
Peter Miklar Peterson.

From Missouri.

Hannah Schankweiler.

From Mississippi.

Hiram T. Wagner.

From Nebraska.

Louis Andrew Divine.

From New York.

Phillip H. Brown.
Bertha Block.
Mary Martin.
Nellie C. Price.
Josephine M. Daly.
Clarence A. Boxley.

From New Jersey.

Minnie G. Mickle.

From New Mexico.

Pedro R. Sandoval.

From North Carolina.

Ernest Bingham.

From Ohio.

Theo. Christian Mueller.
Frank S. Brennan.
Franklin C. Smielau.
William A. Ohlemacher.
Clara Runck.

From Pennsylvania.

Lily Anabel Bicksler.
Harvey D. De Long.
Geo. F. Grimm.
G. Y. Hosterman.
John A. McIlvaine, jr.
John Mutchler Kershner.
Andrew J. Sullivan.
Agatha M. Tiegel.
Laura V. Frederick.
Mary A. Gorman.

From Pennsylvania—Continued.

Harvey W. Peter.
William J. Hayes.
Emma R. Kershner.
May Evelyn Stemple.
Geo. E. Fister.
Cora M. Reed.

From Tennessee.

Alton Odom.
Jesse T. Warren.

From Texas.

Michael Madden.
Robert M. Rives.

From Wisconsin.

William H. Cusuck.
Richard Wallace Williams.

From the District of Columbia.

William H. Bartlett.

From Canada.

Alfred Harper Cowan.

IN THE PRIMARY DEPARTMENT.

Females.

Emily Lucile Bennett, District of Columbia.
Florence Brown, District of Columbia.
Iva Cole, Montana.
Annie Couture, Montana.
Jennette L. Dailey, District of Columbia.
Sarah L. Dailey, District of Columbia.
Maggie Dougherty, Delaware.
Katharine Fogarty, District of Columbia.
Louisa Fischer, Montana.
Sarah Fleming, Delaware.
Lena Flesher, Montana.
Mattie Hurd, Delaware.
Nellie Lynch, Delaware.
Laura Mayer, Delaware.
Mabel Magee, Delaware.
Caroline E. Moran, District of Columbia.
Gertrude Parker, Delaware.
Sarah Antoinette Rogers, South Carolina.
Millie Searles, Montana.
Gertrude E. Schofield, District of Columbia.
Mary Spurry, Delaware.
Olive Small, District of Columbia.
Carrie Strong, District of Columbia.
Bessie Tower, Virginia.
Emma A. Vail, District of Columbia.
Nettie Whitelock, Delaware.
Lillian H. Watts, West Virginia.

Males.

Richard J. Allen, England.
William Brown, District of Columbia.
Howard Breeding, Delaware.
Frank Carroll, District of Columbia.
Harry H. Carr, District of Columbia.
George R. Courtney, District of Columbia.
John D. Clark, Delaware.
Hugh Dougherty, District of Columbia.
J. Clarence Dowell, District of Columbia.
Jacob Eskin, District of Columbia.
Charles T. Faller, Tennessee.
Herbert Hurd, Delaware.
Herbert Jump, Delaware.
James Kirk, Connecticut.
Geo. E. Keyser, District of Columbia.
William Lowell, District of Columbia.
Simon Mundheim, District of Columbia.
Joseph L. Norris, Virginia.
Edmund C. Price, Washington State.
Rufus F. Parker, Tennessee.
Walter B. Rosson, Tennessee.
Carl Rhodes, District of Columbia.
George Richardson, District of Columbia.
Roy J. Stewart, District of Columbia.
Arthur Leroy Swarts, Delaware.
Richard T. Thomas, District of Columbia.
William W. Thomas, New York.
Jesse T. Warren, Tennessee.
Joseph M. Wertzbomski, Delaware.
James Woody, District of Columbia.

REGULATIONS.

I. The academic year is divided into three terms, the first beginning on the Thursday before the last Thursday in September and closing on the 24th of December; the second beginning the 2d of January and closing the last of March; the third beginning the 1st of April and closing the Wednesday before the last Wednesday in June.

II. The vacations are from the 24th of December to the 2d of January and from the Wednesday before the last Wednesday in June to the Thursday before the last Thursday in September.

III. There are holidays at Thanksgiving, Washington's birthday, Easter, and Decoration Day.

IV. The pupils may visit their homes during the regular vacations and at the above-named holidays, but at no other time, unless for some special, urgent reason, and then only by permission of the president.

V. The bills for the maintenance and tuition of pupils supported by their friends must be paid semiannually, in advance.

VI. The charge for pay pupils is $250 each per annum. This sum covers all expenses in the primary department except clothing, and all in the college except clothing and books.

VII. The Government of the United States defrays the expenses of those who reside in the District of Columbia, or whose parents are in the Army or Navy, provided they are unable to pay for their education. To students from the States and Territories who have not the means of defraying all the expenses of the college course the board of directors renders such assistance as circumstances seem to require, as far as the means at its disposal for this object will allow.

VIII. It is expected that the friends of the pupils will provide them with clothing, and it is important that upon entering or returning to the institution they should be supplied with a sufficient amount for an entire year. All clothing should be plainly marked with the owner's name.

IX. All letters concerning pupils or applications for admission should be addressed to the president.

X. The institution is open to visitors during term time on Thursdays only, between the hours of 10 a. m. and 3 p. m. Visitors are admitted to chapel services on Sunday afternoons at a quarter past 3 o'clock.

XI. Congress has made provision for the education, at public expense, of the indigent blind of teachable age belonging to the District of Columbia.

Persons desiring to avail themselves of this provision are required by law to make application to the president of this institution.

REPORT

OF

THE FREEDMEN'S HOSPITAL.

FREEDMEN'S HOSPITAL,
Washington, D. C., August 1, 1893.

SIR: I respectfully submit the annual report of this hospital and dispensary for the fiscal year ending June 30, 1893:

The whole number of patients admitted and treated in the hospital was 2,626, an increase of 87 over last year. Of this number 511 were white and 2,115 colored. Of the white, 400 were males and 111 females. Of the colored, 1,022 were males and 1,093 females.

In the dispensary attached 3,869 persons were prescribed for. The cases treated were surgical, medical, and obstetrical. The number of surgical operations performed were 392, as follows: Amputation of leg, 1; amputation of arm, 3; amputation of foot, 1; amputation of hand, 1; amputation of fingers, 4; amputation of toes, 5; excision of cancer of breast, 2; of cancer of penis, 1; of cystic tumor of forehead, 1; of fatty tumor of groin, 3; neuroma of arm, 1; of syphilitic condylomata, 1; reduction of dislocation of jaw, 1; of dislocation of shoulder, 3; of dislocation of elbow, 1; of dislocation of hip, 1; setting of fracture of nose, 2; of fracture of inferior maxillary, 2; of fracture of clavicle, 12; of fracture of humerus, 5; of compound comminuted fracture of humerus, 1; of fracture of spinal column, 1; of fracture of radius, 2; of ulna, 2; of rib, 4; of fracture of femur, 1; of compound fracture of femur, 2; of compound comminuted fracture of femur, 2; of fracture of hip, 1; of tibia, 1; of tibia and fibula, 13; of compound fracture of tibia and fibula, 13; of fracture of patella, 3; of maleolus, 2; gunshot wounds, 9; incised wounds, 41; lacerated wounds, 27; contused wounds, 67; punctured wounds, 5; abscess of scrotum, 1; fistula of scrotum, 1; stricture of urethra, 4; fistula in ano, 2; phimosis, 5; hydrocele, 2; paracentesis abdominis, 4; hæmorrhoids, 2; abscesses, 74; ascites, 1; fissure of anus, I; prostatic abscess, 1; recto-vaginal fistula, 1; restoration of perinæum, 1; extraction of cataract, 5; removal of tarsal tumor, 10; abscess of lid, 1; removal of pterygium, 3; enucleation of eyeball, 2; slitting the canaliculus, 2; scarification of conjunctiva, 2; cauterization of corneal ulcer, 2; hordeolum, 3; shot in lid, 1; cataract needled, 2; grattage for purulent ophthalmia, 2; strabismus externus, 1; strabismus internus, 2; polypus of conjunctiva, 2; extracting foreign body from ear, 1; removal of ceruminous deposit, 7; wart of concha, 1; Wilde's incision, 1; mastoid operation, 1; nasal polypus, 4.

I submit tables marked A, B, C, D, E, F, G, H, and I. These tables give a comprehensive statement of the work performed during the year, the causes of death, diseases, occupation, nativity, and number admitted each month being set forth in them. To Table B I invite special attention, as it shows the condition of many admitted—that they were really dying at the time of application.

Upon the recommendation of the Commissioner of Pensions 118 ex-soldiers were provided for.

The secretary of the Board of Managers of the National Soldiers' Homes gave orders for the admission of three pensioners, for which the hospital received a compensation of $10.80.

The eye and ear clinics were continued under the care of Dr. E. Oliver Belt, whose services have been valuable. He is thoroughly conversant with his specialty, and in many of his operations showed great skill. A report of his cases will be found in Table I.

The birth rate has been large, numbering 202. Ninety-one cases of alcoholism were successfully treated during the year. Three cases of diphtheria were admitted and treated.

Mrs. Ada Spurgeon continues her mission work among the sick, and has been instrumental in doing much good. Religious services have been conducted regularly by the Society of St. Vincent de Paul, a Catholic society. The fathers from St. Augustine and the Rev. Edward Marshall Mott, of Rock Creek Church, are regular in attendance.

Convalescents and others capable of performing light duties have done so, the following articles having been made by the women: Bedsacks, 24; pillowcases, 158; sheets, 167; towels, 153; chemises, 57; dresses, 55; aprons, 89; skirts, 23.

In accordance with the law, as expressed in the appropriation bill for 1892–'93, the estimates for the hospital for the fiscal year 1893–'94 were included in those of the District of Columbia.

As the appropriation bill for the District passed the House of Representatives, it placed the future management and control of the hospital under the Commissioners of the District of Columbia. As it was the intention of Congress to relieve the Department of the Interior absolutely of the care of the hospital, the friends of Howard University, desiring to protect the interests of one of its most important departments (the medical), objected to having the management of the institution under the control of the Commissioners, believing that the interests of that branch would not be fully fostered and protected by such transfer. The buildings and grounds belong to the university; its medical college is in one of the buildings of the hospital, and is of paramount importance to large and growing classes of colored young men studying to be physicians; it is the only one to which they can be admitted. As all of the other hospitals of the city are managed by boards of responsible citizens, they felt that this one should not be an exception to the rule. With a view to overcoming such objection in case the transfer to the Commissioners should be sanctioned by Congress, articles of incorporation under the laws of the District of Columbia were prepared, submitted to the Commissioners of the District of Columbia, approved by them, and thereafter duly recorded. The matter of the proposed incorporation and the supervision of the hospital by a board of directors was submitted to the Appropriation Committee of the Senate, as well as the Secretary of the Interior, and approved by both. Accordingly the District appropriation bill was amended so as to meet the new condition as above presented, and vested with the Commissioners the supervision of expenditures only.

I invite attention to Table G, as it shows the growth of the hospital during the past nineteen years. During the fiscal year ending June 30, 1875, 190 persons were admitted; for the year ending June 30, 1893, 2,423. This is a large number to be cared for. The medical staff has been heavily taxed, the nurses and attendants have discharged their duties well, the supplies have been ample, the food is excellent, and there has been no reasonable grounds for complaint. The per diem

cost has never exceeded 60 cents, which is very much less than any other institution for adults within the District.

The hospital needs new ward buildings of modern design. Heretofore I have appealed to the generosity of Congress and made estimates covering part of the expense, but it seems to be against the policy of the Government to erect buildings upon private property. I hoped an exception would be made for this institution, for Howard University is poor and can not replace the present frame structures with substantial brick ones. The only recourse is with the benevolent men and women of the country, and from this class the board of incorporators will endeavor to secure endowments. The hospital is quite general in its character; poor persons who are unable to pay for medical treatment are admitted free not only from the District, but many come from the States where hospital accommodations are not accessible. Fully half of the annual admissions are from the police department, others are recommended by physicians and prominent citizens, and many apply direct to the hospital.

The number of dispensary patients is not as large as last year, owing to more careful investigation of the cases. A large number of persons seek to avail themselves of the free dispensaries of the city who are able to employ physicians and buy their medicines. This is an abuse, and does harm to the applicant and wrong to the physicians of the city. The tendency to pauperizing one's self should be discouraged.

Very respectfully,

CHARLES B. PURVIS, M. D.,
Surgeon in Chief.

Hon. HOKE SMITH,
Secretary of the Interior.

TABLE A.—*Causes of death.*

Diseases, etc.	White.		Colored.		Total.	Diseases, etc.	White.		Colored.		Total.
	M.	F.	M.	F.			M.	F.	M.	F.	
Phthisis pulmonalis	5	....	35	26	66	Peritonitis	....	....	3	2	5
Hæmoptysis	....	....	1	....	1	Gastritis	1	....	1	....	2
Valvular disease of heart	1	....	8	10	19	Ulceration of bowels	....	....	....	1	1
Cardiac dropsy	1	....	12	6	19	Intussusception	....	....	....	1	1
Angina pectoris	....	....	1	....	1	Gunshot wound of leg (amputated)	....	....	1	....	1
Pericarditis	....	....	1	....	1	Concussion of brain (compound comminuted fracture of arm)—inflammation of brain—abscess	1	....	....	....	1
Heart failure	....	....	....	1	1						
Typhoid fever	....	....	5	6	11						
Malarial fever	....	....	3	....	3						
Typho-malarial fever	....	....	1	....	1						
Pneumonia	....	....	5	1	6	Compound comminuted fracture of temporal bone (trephined)—abscess—hemorrhage	....	....	1	....	1
Pleuro-pneumonia	....	....	1	1	2						
Congestion of lungs	....	....	2	1	3						
Senile debility	5	....	9	2	16						
Senile dementia	....	....	1	....	1	Aneurism of aorta	....	....	1	....	1
Congenital debility	....	....	6	3	9	Convulsions	....	....	2	....	2
Bright's disease	1	....	....	1	2	Burns	....	....	....	3	3
Acute diarrhœa	....	....	....	1	1	Marasmus	....	....	....	1	1
Chronic diarrhœa	1	....	....	....	1	Senile gangrene of lower extremities	....	....	1	1	2
Dysentery	2	....	3	2	7						
Apoplexy	1	....	4	4	9	Hemorrhage from umbilicus	....	....	....	1	1
Softening of brain	....	....	2	1	3						
Congestion of brain	3	....	1	....	4	Tuberculosis	1	....	1	1	3
Abscess of cerebellum (both lobes).	....	....	....	1	1	Congestive chill	....	....	1	....	1
						Diphtheria	....	....	....	1	1
Cerebro-spinal meningitis	....	....	1	2	3	Erysipelas	1	....	....	....	1
Paralysis, general	....	....	6	3	9	Recto-vaginal fistula—gluteal abscesses	....	....	....	1	1
Cancer of uterus	....	2	....	6	8						
Gangrene of foot	....	....	2	....	2	Multiple abscess of legs and arms	....	....	1	....	1
Necrosis of knee	....	....	....	1	1						
Trismus nascentium	....	....	2	....	2	Tumor of side—pleurisy	....	....	1	....	1
Premature birth	1	....	6	2	9						
Chronic cystitis	...	....	1	....	1	Total	25	2	133	95	225
Puerperal eclampsia	....	....	....	1	1						

TABLE B.—*Number of deaths occurring within ten days after admission, and the time each case was in the hospital prior to death.*

1 died in 5 minutes after admission.
1 died in 20 minutes after admission.
1 died in 1 hour after admission.
2 died in 2 hours after admission.
2 died in 3 hours after admission.
1 died in 5 hours after admission.
1 died in 6 hours after admission.
1 died in 7 hours after admission.
1 died in 9 hours after admission.
2 died in 10 hours after admission.
1 died in 11 hours after admission.
3 died in 12 hours after admission.
1 died in 13 hours after admission.
1 died in 14 hours after admission.
3 died in 16 hours after admission.
1 died in 20 hours after admission.
2 died in 22 hours after admission.
1 died in 23 hours after admission.
1 died in 24 hours after admission.
1 died in 25 hours after admission.
1 died in 27 hours after admission.
1 died in 28 hours after admission.
2 died in 30 hours after admission.
1 died in 34 hours after admission.
5 died in 36 hours after admission.
10 died in 2 days after admission.
11 died in 3 days after admission.
9 died in 4 days after admission.
10 died in 5 days after admission.
17 died in 6 days after admission.
4 died in 7 days after admission.
3 died in 8 days after admission.
5 died in 9 days after admission.
3 died in 10 days after admission.

Total, 110; over one-third of all the deaths occurring during the year.

TABLE C.—*The diseases and conditions for which patients were admitted to hospital and treated in dispensary.*

Diseases, etc.	Treated in hospital.				Treated in dispensary.
	White.		Colored.		
	M.	F.	M.	F.	
Compound comminuted fracture of temporal bone	....	....	1	....	....
Fracture of nose	1	....	1	....	....
Fracture of inferior maxillary	....	....	1	1	....
Fracture of clavicle	....	1	3	....	8
Fracture of humerus	....	....	3	....	2
Compound comminuted fracture of humerus	1	....	....	....	....
Fracture of spinal column (dorsal)	....	....	1	....	....
Fracture of radius	....	....	....	....	2
Fracture of ulna	2	....	....	....	....
Fracture of ribs	1	....	3	....	....
Fracture of femur	....	....	1	....	....
Compound fracture of femur	1	1	....	....	....
Fracture of hip	....	....	1	....	....
Fracture of tibia	1	....	....	....	....
Fracture of tibia and fibula	....	....	13	....	....
Compound fracture of tibia and fibula	....	....	3	....	....
Fracture of patella	....	....	3	....	2
Fracture of maleolus	....	....	2	....	....
Dislocation of jaw	....	....	....	....	1
Dislocation of shoulder	....	....	1	1	1
Dislocation of elbow	1	....	....	....	....
Dislocation of hip	....	....	1	1	....
Gunshot wounds	....	....	6	....	3
Incised wounds	1	....	6	3	31
Lacerated wounds	....	....	6	1	20
Contused wounds	5	....	6	....	56
Punctured wounds	2	....	2	1	....
Contusions	16	1	28	1	1
Sprains	3	....	2	2	10
Synovitis	1	....	2	4	3
Arthritis deformis	....	....	....	1	....
Inflammation of wrist joint	....	....	1	....	....
Inflammation of knee joint	1	....	1	....	....
Periostitis	1	1	....	3	8
Anchylosis	....	....	1	....	2
Paronychia	....	1	....	1	6
Ingrowing toenail	....	....	1	....	....
Furunculus	....		1	....	3
Condylomata	....	....	....	....	7
Carbuncle	1	1	1	....	1
Frostbite	1	....	12	....	3
Foot-sore	1	....	....	....	....
Man bite	....	....	....	....	1
Dog bite	....	....	1	....	....

Diseases, etc.	Treated in hospital.				Treated in dispensary.
	White.		Colored.		
	M.	F.	M.	F.	
Caries of ribs	....	....	1	....	....
Caries of elbow joint	....	....	1	....	....
Caries of hand	1	....	....	....	....
Caries of foot	1	....	1	....	....
Necrosis of frontal bone	....	....	....	....	3
Necrosis of humerus	....	....	....	1	....
Necrosis of elbow	....	....	....	....	1
Necrosis of thumb	....	....	....	....	2
Necrosis of knee	....	....	....	1	....
Necrosis of femur	....	....	1	....	....
Necrosis of hip	....	....	1	....	....
Amputation of fingers	....	....	1	1	2
Exostosis	....	....	1	....	2
Curvature of spine	....	1	....	....	1
Gangrene of foot	....	....	3	....	....
Senile gangrene of lower extremities	....	....	1	1	....
Ulcers	1	....	1	3	....
Chronic ulcers	7	....	8	15	75
Varicose ulcers	....	....	....	....	1
Abscesses	4	2	23	11	32
Burns	....	1	4	5	10
Epulis	....	....	....	1	....
Harelip	....	....	1	1	....
Bunions	....	....	....	....	3
Fatty tumors	....	....	1	1	....
Fibroid tumors	....	....	....	....	4
Scleroma	....	....	1	....	....
Tumors	....	....	4	....	8
Cancer of breast	....	....	....	3	....
Cancer of lip	1	....	....	....	....
Cancer of penis	1	....	1	....	....
Cancer of uterus	....	1	....	10	....
Carcinoma	....	....	....	....	1
Foreign body in throat	....	....	....	....	1
Foreign body in eye	....	....	....	....	1
Hernia, inguinal	1	....	3	....	8
Hernia, strangulated inguinal	....	....	3	....	1
Aneurism of aorta	....	....	1	....	....
Aneurism	1	....	....	....	....
Epistaxis	....	....	1	....	....
Syphilis	3	2	19	40	91
Syphilis, secondary	1	9	16	10	93
Syphilis, tertiary	1	1	1	6	16
Syphilitic sore throat	....	....	2	2	....
Syphilitic condylomata	....	....	2	2	....
Rupia syphilitica	2	....	....	....	....
Syphilitic ulcer	....	....	1	....	....
Gonorrhœa	3	3	14	3	168

TABLE C.—*The diseases and conditions for which patients were admitted to hospital and treated in dispensary*—Continued.

Diseases, etc.	Treated in hospital.				Treated in dispensary.	Diseases, etc.	Treated in hospital.				Treated in dispensary.
	White.		Colored.				White.		Colored.		
	M.	F.	M.	F.			M.	F.	M.	F.	
Chordee	....	....	....	....	2	Pernicious fever	....	....	....	....	1
Gleet	....	....	....	....	8	Erysipelas	3	2	10	7	12
Bubo	....	....	27	9	103	Erysipelas, phlegmonous	....	....	3	....	....
Chancroid	....	....	....	....	13	Rubeola	2	....	6	3	3
Orchitis	....	....	12	....	20	Diphtheria	....	....	....	3	....
Phimosis	....	....	17	....	19	Anæmia	....	....	....	....	8
Paraphimosis	....	....	....	....	6	Acute bronchitis	8	....	11	3	575
Stricture of urethra	....	....	10	....	8	Chronic bronchitis	2	....	....	....	17
Fistula of scrotum	....	....	3	....	....	Coryza	1	....	....	1	27
Abscess of scrotum	....	....	1	....	....	Influenza	....	1	1	2	13
Varicocele	....	....	....	....	1	La grippe	4	1	6	9	14
Nephritis	....	....	2	2	5	Nasal polypus	....	....	....	1	....
Pyelo nephritis	....	....	....	1	....	Ozaena	....	....	1	....	
Dysuria	....	....	....	....	1	Croup	....	....	....	....	5
Catarrh of bladder	....	....	1	....	....	Tonsilitis	3	....	1	14	137
Stone in bladder	....	....	....	....	1	Ulcerated sore throat	....	....	....	2	....
Hæmaturia	1	....	....	....	4	Hypertrophy of tonsils	....	....	....	....	1
Incontinence	....	....	....	1	13	Follicular tonsilitis	....	....	1	1	....
Retention	1	....	4	....	3	Œdemae of uvula	....	....	....	....	1
Onanism	....	....	....	....	4	Prolapsus of uvula	....	....	....	....	5
Hydrocele	....	....	2	....	3	Asthma	5	1	4	4	40
Impotency	....	....	....	....	5	Pertussis	....	....	....	1	2
Rape	....	....	....	....	1	Pleurodynia	....	....	....	1	10
Cystitis	1	....	7	8	30	Pleurisy	3	2	9	20	114
Fistula in ano	1	....	2	1	4	Phthisis pulmonalis	9	2	63	49	41
Hemorrhage from bladder	....	...	1	....	....	Hæmoptysis	....	....	4	4	46
Ulceration of rectum	....	....	....	....	2	Pneumonia	....	....	18	3	3
Stricture of rectum	....	1	....	....	1	Congestion of lungs	....	....	2	1	....
Hæmorrhoids	3	2	3	2	18	Congestive chill	....	....	1	....	....
Prolapsus ani	....	....	....	....	2	Pleuro-pneumonia	....	....	1	1	....
Bright's disease	2	....	8	4	1	Acute laryngitis	....	....	2	1	16
General dropsy	....	....	1	2	14	Chronic laryngitis	....	....	1	....	....
Acute rheumatism	13	7	42	48	33	Tuberculosis	1	....	2	1	....
Chronic rheumatism	9	1	18	5	232	Valvular disease of heart	6	1	28	17	35
Syphilitic rheumatism	1	1	1	1	....	Cardiac dropsy	4	1	17	8	....
Lumbago	1	3	5	2	43	Hypertrophy of heart	1	....	3	....	....
Sciatica	....	1	....	....	1	Angina pectoris	....	....	1	....	3
Coxalgia	....	....	....	1	....	Pericarditis	....	....	1	....	....
Neuralgia	....	3	2	4	60	Stomatitis	....	....	1	....	4
Intercostal neuralgia	....	1	....	....	....	Pharyngitis	....	....	....	....	10
Otalgia	....	....	....	....	3	Parotitis	1	....	....	1	....
Odontalgia	....	....	....	....	66	Gastralgia	....	....	....	5	4
Teeth extracted	....	....	....	....	128	Gastritis	1	....	3	4	3
Torticollis	....	....	....	....	2	Gastrodynia	....	....	....	5	....
Talipes equinus	....	....	....	1	....	Dyspepsia	1	1	5	6	43
Alcoholism	64	4	11	3	15	Constipation	1	....	....	2	161
Delirium tremens	2	....	7	....	....	Enteritis	....	....	....	2	2
Blind	....	....	....	1	....	Intussusception	....	....	1	1	....
Cataract	1	....	3	2	....	Gastro-enteritis	....	....	3	2	....
Conjunctivitis	....	1	....	2	10	Ulceration of bowels	....	....	....	1	....
Ophthalmia	....	....	1	....	....	Dysentery	4	4	6	8	21
Ophthalmia neonatorum	1	....	1	....	....	Marasmus	....	....	....	....	4
Ophthalmia, gonorrhœa	....	....	3	....	....	Cholera morbus	....	....	1	....	15
Iritis	2	1	1	2	2	Enteralgia	....	....	9	2	....
Iritis, syphilitic	....	....	2	....	....	Myalgia	3	3	10	1	66
Keratitis	2	....	1	1	....	Acute diarrhœa	10	1	11	9	35
Keratitis, traumatic	....	....	1	....	....	Chronic diarrhœa	5	....	2	2	....
Opacity of cornea	....	....	....	1	....	Tubercular diarrhœa	1	....	....	1	....
Epiphora	....	....	....	1	....	Hepatitis	....	....	1	....	....
Pterygium	1	....	1	....	....	Icterus	....	....	3	....	3
Acne	....	....	....	....	3	Peritonitis	....	1	4	4	1
Eczema	....	2	1	1	36	Entero-peritonitis	....	....	....	1	....
Pruritis	....	....	....	....	10	Hysteria	....	....	....	14	29
Urticaria	1	....	....	....	6	Insomnia	....	....	....	....	3
Lupus	....	....	2	1	1	Cephalalgia	1	1	4	7	92
Adenitis	....	....	....	....	3	Hemicrania	....	....	....	2	2
Enlarged glands	....	....	....	....	18	Neurasthenia	2	1	....	1	....
Goiter	....	....	....	1	4	Dementia	1	2	....	4	3
Scrofula	....	....	1	3	26	Insanity	2	....	2	....	....
Intermittent fever, quotidian	7	....	15	7	....	Acute mania	....	....	1	....	....
Intermittent fever, tertian	7	4	11	11	18	Convulsions	....	....	1	....	....
Typhoid fever	2	2	17	9	....	Vertigo	2	....	3	....	3
Typho-malarial fever	1	....	2	8	1	Chorea	....	....	1	1	....
Malarial fever	9	2	37	12	213	Epilepsy	5	....	11	4	18
						Catalepsy	....	....	....	....	1

TABLE C.—*The diseases and conditions for which patients were admitted to hospital and treated in dispensary*—Continued.

Diseases, etc.	Treated in hospital.				Treated in dispensary.	Diseases, etc.	Treated in hospital.				Treated in dispensary.
	White.		Colored.				White.		Colored.		
	M.	F.	M.	F.			M.	F.	M.	F.	
Hystero-epilepsy	....	....	....	3	....	Fibroid tumor of ovaries	....	....	....	1	....
Spinal irritation	....	....	....	1	....	Fibroid tumor of uterus	....	....	....	5	....
Paralysis agitans	1	....	....	....	....	Prolapsus uteri	....	....	....	1	3
Paralysis general	1	....	8	7	1	Retroversion of uterus	....	....	....	....	1
Hemiplegia	1	....	4	2	2	Subinvolution	....	....	....	1	....
Paraplegia	1	....	....	....	....	Recto-vaginal fistula	....	....	....	2	....
Congestion of brain	3	....	4	....	....	Abscess of pelvis	....	....	....	1	....
Concussion of brain	1	....	2	....	....	Ovaritis	....	....	....	3	6
Softening of brain	2	....	3	1	1	Vaginismus	....	....	....	....	2
Abscess of cerebellum (both lobes)	....	....	....	1	....	Mammitis	....	....	....	....	2
Acute meningitis	1	....	....	....	....	Cellulitis	....	....	....	5	2
Cerebro-spinal meningitis	....	....	1	3	....	Congestion of uterus	....	....	....	1	....
Apoplexy	1	....	5	4	....	Uterine neuralgia	....	....	....	2	....
Sunstroke	2	....	6	....	....	Amenorrhea	....	....	....	....	17
Tetanus, idiopathic	....	....	1	....	....	Dysmenorrhea	....	....	....	3	22
Poison, poison oak	....	....	....	....	3	Menorrhagia	....	1	....	7	12
Poison, poison ivy	....	....	....	....	1	Metrorrhagia	....	....	....	3	5
Pregnancy	....	8	....	217	36	Menopause	....	....	....	1	2
Premature birth	1	....	6	2	....	Leucorrhea	....	2	....	3	21
Miscarriage	....	1	....	18	4	Chlorosis	....	....	....	....	5
Abortion	....	....	....	3	....	Infancy	3	1	81	95	....
Threatened abortion	....	....	....	4	....	Hemorrhage from umbilicus	....	....	....	1	....
Confinement	....	1	....	16	....	Congenital debility	....	....	9	1	....
Puerperal eclampsia	....	....	....	3	....	Trismus nascentium	....	....	2	....	....
Puerperal metritis	....	....	....	12	....	Cholera infantum	....	....	....	....	2
Metritis	....	....	....	....	10	Dentition	....	....	1	....	2
Urethritis	....	....	....	....	2	General debility	2	1	2	....	55
Endometritis	....	....	....	8	2	Senile debility	7	....	18	6	....
Endocervicitis	....	....	....	1	....	Senile dementia	....	....	....	3	....
Abscess of vulva	....	....	....	1	....	Convalescent	25	....	6	1	....
Œdema of labia	....	1	....	....	....						

TABLE D.—*Occupation of patients.*

Occupations.	No.	Occupations.	No.	Occupations.	No.
Servants	556	Watchmen	4	Stone mason	1
Laborers	508	Molders	4	Druggist	1
Ex soldiers	118	Boatmen	4	Bell man	1
Drivers	45	Plasterers	3	Cabinetmaker	1
Cooks	28	Tailors	3	Bookkeeper	1
Waiters	25	Hackmen	3	Plate printer	1
Laundresses	24	Whitewashers	3	Well-digger	1
Hostlers	19	Stonecutters	3	Peddler	1
Sailors	18	Storekeepers	3	Jockey	1
Housekeepers	14	Fishermen	3	Paper-hanger	1
Barbers	14	Ex-U. S. Navy	2	Boat-builder	1
Farmers	11	Newsboys	2	Gardener	1
Carpenters	11	Butlers	2	Bartender	1
Painters	9	Basket-makers	2	Oyster-dredger	1
Chambermaids	8	Conductors	2	Civil engineer	1
Clerks	8	Guides	2	Teacher	1
Nurses	7	Firemen	2	Coach-builder	1
Hucksters	7	Plumbers	2	Lawyer	1
Coachmen	7	Dairymen	2	Lumberman	1
Bricklayers	7	Dressmakers	2	Upholsterer	1
Blacksmiths	7	Electricians	2	Undertaker	1
Hod-carriers	6	Coach-painters	2	Cigarmaker	1
Shoemakers	6	Machinists	2	Messenger	1
Students	6	Janitors	2	Engineer	1
Seamstresses	5	Dredgers	2	Reporter	1
Butchers	5	Iceman	1	No occupation	67
Porters	5	Baker	1	Unknown	484
Printers	4	Shoeblack	1		

TABLE E.—*Nativity of patients.*

Where born.	No.	Where born.	No.	Where born.	No.
Virginia	867	Delaware	7	Indiana	2
District of Columbia	538	New Jersey	7	Switzerland	2
Maryland	485	Kentucky	5	Scotland	2
Ireland	80	West Virginia	4	Africa	2
Pennsylvania	74	France	4	Tennessee	1
New York	66	Louisiana	3	Maine	1
North Carolina	52	Florida	3	Michigan	1
Germany	28	Mississippi	3	Italy	1
England	16	Connecticut	3	Nova Scotia	1
South Carolina	16	Missouri	3	Wales	1
Ohio	13	Russia	3	Greece	1
Georgia	13	Illinois	2	West Indies	1
Massachusetts	11	Texas	2	Unknown	77
Canada	10	Rhode Island	2		
Alabama	7	New Hampshire	2		

TABLE F.—*Showing the number admitted each month.*

Month.	No.	Month.	No.
1892.		1893.	
July	229	January	203
August	244	February	171
September	252	March	190
October	206	April	196
November	165	May	211
December	168	June	187
		Total	2,422

TABLE G.—*Showing the number each year for the past nineteen years.*

During year ended June—	No.	During year ended June—	No.	During year ended June—	No.
1875	190	1882	1,102	1889	2,074
1876	319	1883	1,373	1890	2,392
1877	500	1884	1,509	1891	2,373
1878	519	1885	1,794	1892	2,331
1879	642	1886	1,923	1893	2,422
1880	819	1887	2,017		
1881	892	1888	1,997		

TABLE H.—*Summary for the year.*

	White.			Colored.			Grand total.
	Males.	Females.	Total.	Males.	Females.	Total.	
Remaining June 30, 1892	44	4	48	73	82	155	203
Admitted	352	105	457	848	916	1,764	2,221
Born	4	2	6	101	95	196	202
Total	356	107	463	949	1,011	1,960	2,423
Total in hospital	400	111	511	1,022	1,093	2,115	2,626
Discharged	351	104	455	797	895	1,692	2,147
Died	25	2	27	132	96	228	255
Stillborn	.....	1	1	7	9	16	17
Total	376	107	483	936	1,000	1,936	2,419
Remaining June 30, 1893	24	4	28	86	93	179	207

TABLE I.—*Diseases of the eye and ear.*

DISEASES OF THE EYE.

Diseases, etc.	White.	Colored.	Diseases, etc.	White.	Colored.
Blepharitis		5	Choroiditis		1
Wound of lid		5	Choroidal atrophy	2	2
Stye		4	Cyclitis		2
Tarsal cyst	1	13	Retinitis		3
Ectropion		1	Atrophy of the optic nerve		10
Strabismus internis	2		Pus in anterior chamber		1
Strabismus externis		1	Cataract senile	2	9
Epiphora		3	Cataract, inflammatory		1
Mucocele		1	Atrophy of eyeball, injury	1	4
Conjunctivitis, catarrhal	10	78	Hyperopia		10
Conjunctivitis, phlyctenular	2	4	Presbyopia	2	13
Conjunctivitis, granular	3		Astigmatism		21
Conjunctivitis, purulent	2	19	Trichiasis		3
Conjunctivitis, fol		4	Ulcer of lid		1
Pterygium		5	Eczema of lid	2	2
Keratitis, interstitial	1	16	Ptosis		3
Keratitis, phlyctenular		7	Paralysis of third nerve	1	
Ulcer of cornea	1	4	Ulcer of conjunctiva		2
Ant. staphyloma		3	Episcleritis		1
Opacity of cornea	6	21	Closed pupil		6
Iritis	8	13	Pannus		3
Synechia, anterior		2	Tremulus iris	1	1
Synechia, posterior		2	Retinal hemorrhage		1
Gummata of iris		2	Polypus of conjunctiva	1	
Circum. corneal hypertrophy		1	Xanthelasma		1
Kerato-iritis		1	Ecchymosis of conjunctiva		2
Kerato-conus	1		Aphakia		1
Foreign body in cornea		1	Wound of cornea		1
Foreign body in conjunctiva		2	Muscæ		1
Hernia of iris		2	Lost eye		2
Hyphæma		1			

DISEASES OF THE EAR.

Eczema of external meatus	1	1	Keloid		2
Foreign body in external meatus		1	Mastoiditis	1	
Ceruminous deposit		9	Mastoid abscess	1	
Chronic aural catarrh	2	7	Polypus	1	
Acute aural catarrh		3	Furuncle	1	
Otorrhœa	3	11	Wart of concha		1
Nerve deafness		4	Rupture of middle tympanum	1	1
Tinnitus aurium		4			

OPERATIONS.

Eye:			Eye—Continued.		
Extraction of cataract	1	4	Strabismus externus		1
Removal of tarsal tumor	1	9	Strabismus internus	2	
Abscess of lid		1	Polypus of conjunctiva	1	1
Removal of pterygium		3	Ear:		
Enucleation of eyeball		2	Extracting foreign body from ear		1
Slitting the canaliculus		2	Removal of ceruminous deposit		7
Scarification of conjunctiva		2	Wart of concha		1
Cauterization of corneal ulcer	1	1	Wildes incision	1	
Hordeolum		3	Mastoid operation	1	
Shot in lid		1	Nose:		
Cataract, needled		1	Nasal polypus		
Grattage for purulent ophthalmia		2			

Total number of operations, 54.

REPORT

OF THE

BOARD OF VISITORS OF THE GOVERNMENT HOSPITAL FOR THE INSANE.

OFFICERS OF THE HOSPITAL, JUNE 30, 1893.

VISITORS.

JOSEPH M. TONER, M. D.,
President of the Board.
JAMES C. WELLING, LL. D.
Mrs. A. M. GANGEWER.
Mrs. AMELIA J. ROWLAND.
Hon. WILLIAM A. MAURY.

JOHN MOORE, M. D., U. S. A.
F. M. GUNNELL, M. D., U. S. N.
Rev. BYRON SUNDERLAND, D. D.
WALTER WYMAN, M. D.,
Supervising Surgeon-General M. H. S.

EXECUTIVE COMMITTEE OF THE BOARD.

Messrs. TONER, GUNNELL, and MOORE.

CHAPLAINS.

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Rev. A. FLORIDUS STEELE.
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Rev. THOMAS B. HUGHES.
Rev. JACOB D. WILSON.

MEDICAL OFFICERS.

W. W. GODDING, M. D., *Superintendent and ex-officio Secretary of the Board of Visitors.*
A. H. WITMER, M. D., *First Assistant Physician, in charge of Female Department.*
M. J. STACK, M. D., *Second Assistant Physician, in charge of Male Department.*
A. C. PATTERSON, M. D., *Third Assistant Physician.*
J. C. SIMPSON, M. D., *Fourth Assistant Physician.*
C. H. LATIMER, M. D., *Fifth Assistant Physician.*
I. W. BLACKBURN, M. D., *Special Pathologist.*
J. A. BARRY, M. D., *Night Medical Supervisor.*

REPORT

OF

THE BOARD OF VISITORS.

GOVERNMENT HOSPITAL FOR THE INSANE,
Washington, D. C., August 31, 1893.

SIR: In accordance with the statute requirements, the Board of Visitors respectfully submit this, their thirty-eighth annual report.

The following are the tabulated statistics of the fiscal year ending June 30, 1893:

SUMMARY.

	Males.	Females.	Total.
Remaining June 30, 1892	1,232	365	1,597
Admitted during the year ending June 30, 1893	261	84	345
Whole number under treatment	1,493	449	1,942
DISCHARGED.			
Recovered	57	10	67
Improved	46	23	69
Unimproved	4	1	5
Died	140	41	181
Total discharged and died	247	75	322
Remaining June 30, 1893	1,246	374	1,620

Admissions and discharges.

		Males.		Females.		Total.	
REMAINING JUNE 30, 1892.							
Army	White	709		3			
	Colored	11		------			
			720		3	723	
Navy	White	77					
	Colored	------					
			77			77	
Marine Hospital Service	White	20					
	Colored	4					
			24			24	
Civil life	White	286		243			
	Colored	125		119			
			411		362	773	
					365		1,597
						501	

Admissions and discharges—Continued.

		Males.			Females.			Total.	
ADMITTED DURING THE YEAR 1893.									
Army	White	135							
	Colored	5							
			140					140	
Navy	White	13							
	Colored	.....							
			13					13	
Marine Hospital Service	White	8							
	Colored	.....							
			8					8	
Civil life	White	67			56				
	Colored	33			28				
			100			84		184	
				261			84		345
UNDER TREATMENT DURING THE YEAR.									
Army	White	844			3				
	Colored	16			.....				
			860			3		863	
Navy	White	90							
	Colored	.....							
			90					90	
Marine Hospital Service	White	28							
	Colored	4							
			32					32	
Civil life	White	353			299				
	Colored	158			147				
			511			446		957	
				1,493			449		1,942
DISCHARGED DURING THE YEAR—RECOVERED.									
Army	White	22							
	Colored	2							
			24					24	
Navy	White	4							
	Colored	.....							
			4					4	
Marine Hospital Service	White	3							
	Colored	1							
			4					4	
Civil life	White	15			8				
	Colored	10			2				
			25			10		35	
				57			10		67
DISCHARGED DURING THE YEAR—IMPROVED.									
Army	White	22							
	Colored	.....							
			22					22	
Navy	White	1							
	Colored	.....							
			1					1	
Marine Hospital Service	White	2							
	Colored	.....							
			2					2	
Civil life	White	18			10				
	Colored	3			13				
			21			23		44	
				46			23		69
DISCHARGED DURING THE YEAR—UNIMPROVED.									
Army	White	.....							
	Colored	.....							
Navy	White	1							
	Colored	.....							
			1					1	
Marine Hospital Service	White	.....							
	Colored	.....							
Civil life	White	3			1				
	Colored	.....			.....				
			3			1		4	
				4					

Admissions and discharges—Continued.

		Males.			Females.			Total.	
DECEASED DURING THE YEAR.									
Army	White	76			1				
	Colored	1			.....				
			77			1		78	
Navy	White	12							
	Colored	.....							
			12					12	
Marine Hospital Service	White	1							
	Colored	.....							
			1					1	
Civil life	White	30			40				
	Colored	20			.....				
			50			40		90	
				140			41		181
REMAINING JUNE 30, 1893.									
Army	White	724			2				
	Colored	13			.....				
			737			2		739	
Navy	White	72							
	Colored	.....							
			72					72	
Marine Hospital Service	White	22							
	Colored	3							
			25					25	
Civil life	White	287			251				
	Colored	125			121				
			412			372		784	
				1,246			374		1,620

The patients from civil life remaining June 30, 1893, are classified as follows:

	Males.	Females.	Total.
District of Columbia, transient	53	22	75
District of Columbia, resident indigent	286	340	626
United States convicts and criminals	70	10	80
Private patients	3	.....	3
Total	412	372	784

Monthly changes of population.

Date.	Admitted.			Discharged.						
							Died.			
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Total discharges, including deaths.
July, 1892	12	8	20	9	6	15	9	5	14	29
August, 1892	31	4	35	8	4	12	9	2	11	23
September, 1892	35	15	50	5	3	8	13	7	20	28
October, 1892	10	5	15	9	5	14	10	3	13	27
November, 1892	13	5	18	9	5	14	10	2	12	26
December, 1892	18	5	23	8	1	9	10	3	13	22
January, 1893	9	5	14	14	1	15	18	2	20	35
February, 1893	19	5	24	4	3	7	13	4	17	24
March, 1893	21	6	27	7	2	9	20	4	24	33
April, 1893	15	11	26	15	1	16	8	2	10	26
May, 1893	62	8	70	12	3	15	10	3	13	28
June, 1893	16	7	23	7	.....	7	10	4	14	21
Total	261	84	345	107	34	141	140	41	181	322

Cause of death.

Apoplexy	7	Gastro-enteritis	1
Apoplexy, hemorrhagic	5	Heart failure	3
Asphyxia, accidental	1	Inanition	1
Bright's disease, chronic	4	La grippe	1
Bronchitis	1	Meningitis	2
Bulbar paralysis	1	Œdema of brain	4
Cardiac valvular disease	12	Organic disease of brain	10
Colitis	5	Peritonitis	1
Catarrhal jaundice with nephritis	1	Pericarditis	2
Carcinoma	4	Phthisis	22
Chronic myo-carditis with cardiac aneurism	1	Pneumonia	13
		Pneumonia, pleuritic	1
Chronic nephritis with cardiac valvular disease	1	Pulmonary congestion	1
		Pulmonary gangrene	2
Catarrhal jaundice with purpura hemorrhagica	1	Pernicious anæmia	1
		Prostration from heat	3
Catarrhal jaundice	1	Purpura and inanition	1
Cystitis	1	Pyelo-nephritis	1
Chronic gastritis with stricture of œsophagus	1	Rupture of aortic aneurism	2
		Rupture of ovarian cyst	1
Diarrhœa	7	Senectus	1
Dysentery	6	Senectus with exhaustion	4
Drowning, accidental	1	Septicæmia	1
Epileptic convulsions	13	Tubercular peritonitis	2
Epileptiform convulsions	1	Typhoid fever	1
Exhaustion	7	Typho-malarial fever	1
Exhaustion from acute mania	2	Exhaustion from effects of suicidal attempt previous to admission	1
Fatty degeneration of heart	1		
General paralysis	10	Total	181
General paralysis with phrenitis	1		
General spinal paralysis	1		

Duration of mental disease of those who died.

One month	2	Fifteen years	3
Three months	3	Sixteen years	4
Four months	1	Seventeen years	2
Six months	3	Eighteen years	5
Nine months	1	Twenty-one years	4
One year	14	Twenty-two years	2
Two years	15	Twenty-three years	1
Three years	20	Twenty-four years	1
Four years	12	Twenty-six years	1
Five years	14	Twenty-nine years	2
Six years	13	Thirty-two years	5
Seven years	8	Thirty-five years	2
Eight years	6	Thirty-nine years	1
Nine years	4	Forty years	1
Ten years	1	Forty-one years	3
Eleven years	4	Forty-three years	1
Twelve years	7		
Thirteen years	7	Total	181
Fourteen years	8		

Duration of mental disease on admission of those who recovered.

Under 10 days	3	Between 3 and 4 months	4
Between 10 and 20 days	5	Between 6 and 8 months	5
Between 20 and 30 days	2	Between 1 and 2 years	9
Between 1 and 2 months	30		
Between 2 and 3 months	9	Total	67

Duration of disease on admission.

		Males.			Females.			Totals.
LESS THAN SIX MONTHS.								
Army	White...	30						
	Colored..	3						
			33					33
Navy	White...	5						
	Colored..	.....						
			5					5
Marine-Hospital Service	White...	4						
	Colored..	.....						
			4					4
Civil life	White...	36			22			
	Colored..	16			15			
			52			37		89
				94			37	131
LESS THAN ONE YEAR.								
Army	White...	14						
	Colored..	.....						
			14					14
Navy	White...	2						
	Colored..	.....						
			2					2
Marine-Hospital Service	White...	2						
	Colored..	.....						
			2					2
Civil life	White...	7			3			
	Colored..	3			1			
			10			4		14
				28			4	32
ONE TO TWO YEARS.								
Army	White ...	35						
	Colored..	.....						
			35					35
Navy	White ...	3						
	Colored..	.....						
			3					3
Marine-Hospital Service	White ...	.....						
	Colored..	.....						
Civil life	White ...	13			8			
	Colored..	7			3			
			20			11		31
				58			11	69
OVER TWO YEARS.								
Army	White ...	20						
	Colored..	.....						
			20					20
Navy	White ...	1						
	Colored..	.....						
			1					1
Marine-Hospital Service	White ...	.....						
	Colored..	.....						
Civil life	White ...	7			2			
	Colored..	4			4			
			11			6		17
				32			6	38
OVER THREE YEARS.								
Army	White ...	14						
	Colored..	2						
			16					16
Navy	White ...	.....						
	Colored..	.....						
Marine-Hospital Service	White ...	.....						
	Colored..	.....						
Civil life	White ...	.....			2			
	Colored..	.....			.....			
						2		2
								18

Duration of disease on admission—Continued.

		Males.			Females.			Total.
OVER FOUR YEARS.								
Army	White	2						
	Colored	.....						
			2					2
Navy	White	.....						
	Colored	.....						
Marine-Hospital Service	White	.....						
	Colored	.....						
Civil life	White	.....			4			
	Colored	.....			.....			
						4	4	
								6
FIVE TO TEN YEARS.								
Army	White	12						
	Colored	.....						
			12					12
Navy	White	2						
	Colored	.....						
			2					2
Marine Hospital Service	White	.....						
	Colored	.....						
Civil life	White	2			4			
	Colored	.....			2			
			2			6	8	
				16				22
TEN TO TWENTY YEARS.								
Army	White	5						
	Colored	.....						
			5					15
Navy	White	.....						
	Colored	.....						
Marine-Hospital Service	White	2						
	Colored	.....						
			2					2
Civil life	White	.....			7			
	Colored	3			2			12
			3					
				10		9		19
OVER TWENTY YEARS.								
Army	White	3						
	Colored	.....						
			3					3
Navy	White	.....						
	Colored	.....						
Marine-Hospital Service	White	.....						
	Colored	.....						
Civil life	White	2			4			
	Colored	.....			1			
			2					7
				5		5		
								10
UNKNOWN.								
Army	White	.....						
	Colored	.....						
Navy	White	.....						
	Colored	.....						
Marine-Hospital Service	White	.....						
	Colored	.....						
Civil life	White	.....						
	Colored	.....						

Table showing the nativity, as far as could be ascertained, of the 8,856 cases treated.

Native-born.	Number.	Foreign-born.	Number.
District of Columbia	1,057	Ireland	1,606
New York	619	Germany	1,088
Maryland	686	England	206
Virginia	798	France	70
Pennsylvania	470	Canada	75
Ohio	288	Scotland	75
Massachusetts	204	Switzerland	35
Maine	90	Italy	33
Illinois	86	Denmark	26
Connecticut	66	Norway	24
New Hampshire	69	Sweden	32
Indiana	86	Poland	15
Kentucky	74	Prussia	6
Michigan	52	Panama	1
New Jersey	79	Russia	15
Tennessee	46	Austria	18
Wisconsin	34	Nova Scotia	11
Vermont	39	Spain	6
Missouri	46	Holland	10
Rhode Island	30	Wales	10
Delaware	20	Portugal	4
North Carolina	34	Hungary	5
Alabama	21	Mexico	6
South Carolina	18	Saxony	6
Iowa	9	Malta	3
Georgia	23	Belgium	4
Mississippi	22	Buenos Ayres	3
Louisiana	14	Costa Rica	1
West Virginia	23	Bavaria	7
Kansas	4	Sicily	1
Florida	7	British Columbia	1
Texas	11	British Possessions	1
California	6	East Indies (British)	6
Indian Territory	5	West Indies (British)	6
Colorado	1	New Brunswick	2
Arkansas	5	Cuba	2
Montana	1	China	1
Oregon	1	Sandwich Islands	1
Minnesota	2	Coast of Africa	1
Dakota	1	Cyprus	1
		Turkey	1
Total	5,147	Greece	2
		New Granada	1
		West Indies (Haiti)	1
		Total	3,429

RECAPITULATION.

Native-born	5,147
Foreign-born	3,429
Unknown	280
Total	8,856

Form of disease in those admitted.

Disease.	Total last year.	Admitted during year.	Total.	Disease.	Total last year.	Admitted during year.	Total.
Mania, acute	2,519	72	2,591	Dipsomania	439	3	442
Mania, chronic	1,332	22	1,354	Kleptomania	4	.....	4
Melancholia	1,542	105	1,647	Nymphomania	4	.....	4
Dementia	1,999	85	2,084	Imbecility	124	10	134
Dementia, senile	253	22	275	Opium eaters	19	.....	19
Paresis	257	25	282	Idiocy	3	.....	3
Typhomania (Bell's disease)	2	.....	2	Not insane	13	1	14
Diffuse suppurative meningitis	1	.....	1	Total	8,511	345	8,856

Tabular statement of the time of life at which the 8,856 cases treated since the opening of the institution became insane.

	Previous to 1892.	1893.	Total.
Under 10 years	197	15	212
Between 10 and 15 years	88	3	91
Between 15 and 20 years	444	15	459
Between 20 and 25 years	1,293	31	1,324
Between 25 and 30 years	1,455	39	1,494
Between 30 and 35 years	1,251	25	1,276
Between 35 and 40 years	945	32	977
Between 40 and 45 years	738	32	770
Between 45 and 50 years	585	36	621
Between 50 and 60 years	715	55	770
Between 60 and 70 years	432	39	471
Between 70 and 80 years	156	18	174
Between 80 and 90 years	26	3	29
Over 90 years	2	1	3
Unknown	171	.....	171
Not insane	13	1	14
Total	8,511	345	8,856

Private patients.

	Male.	Female.	Total.
There were at the beginning of the year	3	2	5
Admitted during the year	.....	.....	.....
Whole number under treatment	3	2	5
Discharged during the year	.....	1	1
Died during the year	.....	1	1
Remaining at end of the year	3	.....	3

Summary of total admissions.

	Male.	Female.	Total.
Percentage of cases recovered	36.61	25.84	34.43
Percentage of cases improved	15.27	18.91	16.02
Percentage of cases unimproved	2.14	4.30	2.57
Percentage of cases died	28.34	30.08	28.69
Percentage of cases remaining	17.64	20.87	18.29
	100.00	100.00	100.00

Admissions, discharges, and deaths, with the mean annual mortality and proportion of recoveries, per cent of the discharges, including deaths, for each year since the opening of the hospital.

Years.	Admitted.			Discharged.											Remaining June 30 in each year.			Daily average.			Percentage of recoveries on discharges.			Percentage of deaths on average numbers.			Percentage of deaths on total number.		
				Recovered.			Improved.			Unimproved.			Died.																
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
1855	26	37	63	....	3	3	....	....	.....	....	.....	.....	.....	.....	.....	26	34	60	19.35	20.65	40.00	.....	100.00	190.00	.....	.....	.....	.....	.....	.....
1855–'56	36	11	47	3	2	5	....	....	.....	....	1	1	5	3	8	54	39	93	41.20	37.98	70.18	37.50	33.33	35.71	12.13	7.09	10.10	8.06	6.66	7.48
1856–'57	25	27	52	2	4	6	3	1	4	7	3	10	8	8	16	59	50	109	54.55	42.80	97.35	10.00	25.00	16.66	14.66	18.69	16.43	10.13	12.12	11.03
1857–'58	29	14	43	13	5	18	1	1	2	2	....	2	7	6	13	65	52	117	57.70	50.31	108.01	56.52	44.66	51.42	12.13	11.92	12.03	7.95	9.37	8.55
1858–'59	47	18	65	16	5	21	1	4	5	5	3	8	6	4	10	84	54	138	72.93	56.24	129.17	57.13	31.25	47.73	8.22	7.11	7.74	5.36	5.71	5.49
1859–'60	68	24	92	26	7	33	4	3	7	3	2	5	13	5	18	106	61	167	100.68	59.00	159.68	56.52	41.17	52.38	12.91	8.47	11.27	8.55	6.41	7.25
1860–'61	64	31	95	42	11	53	5	2	7	2	....	2	12	7	19	109	72	181	109.76	64.81	174.57	68.85	55.55	65.43	10.93	10.80	10.88	7.06	7.61	7.82
1861–'62	174	12	186	96	8	104	14	1	15	....	.....	.....	26	10	36	147	65	212	123.75	65.74	189.49	70.59	42.10	67.09	21.01	15.21	19.00	9.18	11.90	9.81
1862–'63	330	25	355	197	6	203	17	1	18	3	3	6	57	4	61	203	76	279	168.41	72.31	240.72	71.89	42.85	70 45	33.84	5.53	25.34	11.95	4.44	10.76
1863–'64	484	25	509	282	6	288	69	1	70	5	....	5	67	8	75	364	86	350	205.73	77.66	283.39	66.66	40.00	65.75	42.56	10.30	26.40	1.75	7.92	9.51
1864–'65	478	36	514	315	9	324	110	12	122	11	..	11	139	8	147	167	93	200	277.42	83.81	361.23	54.78	31.03	53.64	50.10	9.54	40.69	18.73	6.55	17.01
1865–'66	194	28	222	104	5	109	20	7	27	10	1	11	41	12	53	186	96	282	190.92	90.70	281.62	59.42	20.00	54.50	21.47	13.23	18.82	11.35	9.91	10.99
1866–'67	88	21	109	45	7	52	11	3	14	11	1	12	19	14	33	188	92	280	189.06	89.46	279.12	52.32	28.00	46.85	10.02	15.65	11.82	6.93	11.96	8.44
1867–'68	120	33	153	49	15	64	6	2	8	5	1	6	22	5	27	226	102	328	221.17	96.44	317.61	59.75	65.22	60.95	9.95	5.18	9.50	7.14	4.00	6.23
1868–'69	133	35	168	59	11	70	9	6	15	8	2	10	24	9	33	259	109	368	244.55	108.03	352.58	59.00	39.28	54.69	9.81	8.33	9.35	6.70	6.57	6.65
1869–'70	146	36	182	32	8	40	16	8	24	11	3	14	15	3	18	331	123	454	294.69	108.08	402.77	43.24	36.37	41.67	5.09	2.77	4.36	3.71	2.05	3.27
1870–'71	161	34	195	50	12	62	21	7	28	4	3	7	33	11	44	384	124	508	354.34	121.66	476.00	46.30	36.36	43.97	9.31	9.04	9.24	6.70	7.00	6.78
1871–'72	142	44	186	43	8	51	16	13	29	8	1	9	37	7	44	422	139	561	407.21	131.57	538.78	41.34	27.59	38.34	9.09	5.32	8.16	7.04	4.17	6.34
1872–'73	153	51	204	49	15	64	23	5	28	3	5	8	32	13	45	468	152	626	431.03	144.11	575.14	45.70	39.47	44.13	7.42	9.02	7.82	5.56	6.84	5.88
1873–'74	192	38	230	67	12	79	22	8	30	6	3	9	39	11	50	526	156	682	492.44	151.36	643.80	50.00	35.29	47.02	7.92	7.27	7.76	5.91	5.79	5.88
1874–'75	179	51	230	66	9	75	28	22	50	8	3	11	51	7	58	552	166	718	536.46	164.17	700.63	43.13	21.95	38.66	9.50	4.26	8.27	7.23	3.38	6.36
1875–'76	166	47	213	67	17	84	26	10	36	1	....	1	48	18	66	570	168	744	564.78	165.59	730.37	47.18	37.78	45.45	8.49	10.87	9.04	6.68	8.45	7.09
1876–'77	147	51	198	66	17	83	27	13	40	2	....	2	45	7	52	583	182	765	587.41	176.30	763.71	47.80	45.94	46.89	7.66	3.96	6.80	6.22	3.19	5.52
1877–'78	138	44	182	49	11	60	32	9	41	3	4	7	37	9	46	600	193	793	596.82	184.37	781.19	40.49	33.33	38.96	6.19	4.88	5.88	5.13	5.98	4.35
1878–'79	169	53	222	68	24	92	30	7	37	3	1	4	51	12	63	617	202	819	619.10	196.70	815.80	44.73	54.54	46.93	8.23	6.10	7.72	6.63	4.87	6.20
1879–'80	181	44	225	38	14	52	23	10	33	....	3	3	46	13	59	691	206	897	655.34	196.63	851.97	35.51	35.00	35.37	7.01	6.61	6.92	5.76	5.28	5.65
1880–'81	161	62	223	62	10	72	27	9	36	....	6	6	63	18	81	700	225	925	685.37	211.38	896.75	40.78	23.25	36.92	9.19	8.51	9.03	7.39	6.71	7.23
1881–'82	178	69	247	62	21	83	31	8	39	2	5	7	74	27	101	709	233	942	697.10	232.88	929.98	36.69	34.43	36.08	10.61	11.59	10.86	8.44	9.18	8.61
1882–'83	201	64	265	76	19	95	33	16	49	....	6	6	46	17	63	755	239	994	729.89	235.27	965.16	49.05	31.03	44.13	6.30	7.22	6.52	5.05	5.72	5.22
1883–'84	286	64	347	68	13	81	35	8	43	3	1	4	51	16	67	884	262	1,146	797.21	243.27	1,040.48	42.03	34.21	40.51	6.39	6.57	6.44	4.90	5.33	4.99
1884–'85	229	91	320	65	24	89	37	12	49	1	1	2	84	21	105	926	295	1,221	902.41	270.89	1,173.34	34.76	41.37	36.32	9.31	7.75	8.94	7.55	5.95	7.19
1885–'86	234	69	303	55	22	77	58	15	73	2	3	5	79	23	102	966	301	1,267	936.39	283.23	1,219.62	28.35	34.92	29.96	8.54	8.12	8.36	6.81	6.32	6.69
1886–'87	206	62	268	57	15	72	49	17	66	2	1	3	73	19	92	991	311	1,302	956.07	297.36	1,253.43	31.49	28.48	30.90	7.63	6.38	7.34	6.22	5.23	5.99
1887–'88	247	71	318	59	10	69	52	14	66	3	1	4	95	25	120	1,029	332	1,361	1,009.55	315.55	1,325.08	28.23	20.00	26.64	9.41	7.92	9.06	7.67	5.64	7.41
1888–'89	213	67	380	50	20	70	27	27	54	5	2	6	86	28	114	1,075	322	1,397	1,049.99	323.83	1,373.82	29.94	25,97	28.69	8.19	8.65	8.30	6.92	7.02	6.94
1889–'90	274	71	345	39	6	45	43	6	49	....	3	3	112	28	144	1,115	350	1,505	1,108.57	326.53	1,435.10	20.10	13.95	18.12	10.13	8.59	9.76	8.30	7.48	8.04
1890–'91	271	81	352	36	30	66	38	15	53	1	1	2	98	30	128	1,253	355	1,608	1,160.62	344.44	1,505.06	20.81	34 47	26.51	8.44	8.71	8.51	6.87	6.96	6.89
1891–'92	233	70	303	56	12	68	69	13	82	8	3	11	121	32	153	1,232	365	1,597	1,226.64	348.65	1,575.29	22.05	20.00	21.66	9.86	9.18	9.71	8.14	7.53	8.01
1892–'93	261	84	345	57	10	67	46	23	69	4	1	5	140	41	181	1,246	374	1,620	1,255.56	357.02	1.582.58	23.08	13.33	20.81	11.41	11.48	11.44	9.38	9.13	9.32

History of the annual admissions since the opening of the hospital, with discharges and deaths, and number for each year remaining June 30, 1893.

Years.	Admitted.					Of each year's discharged and died in 1893.												Total discharged and died of each year's admissions.												Remaining of each year's admissions June 30, 1893.		
	New cases.		Relapsed cases.		Total.	Recovered.			Improved.			Unimproved			Died.			Recovered.			Improved.			Unimproved			Died.					
	M.	F.	M.	F.		M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
1855.....	26	37	.....	....	63	....	....	.....	....	....	.....	....	....	.....	1	1	2	1	3	4	1	1	2	3	4	7	20	27	47	1	2	3
1855-'56..	36	11	.....	....	47	....	....	.....	....	....	.....	....	....	.....	....	....	....	9	6	15	2	1	3	2	...	2	22	4	26	1	....	1
1856-'57..	24	25	1	2	52	....	....	.....	....	....	.....	....	....	.....	....	2	2	8	6	14	3	3	6	3	4	7	11	11	22	.....	3	3
1857-'58..	27	11	2	3	43	....	....	.....	....	....	.....	....	....	.....	....	....	....	16	4	20	2	....	2	3	1	4	8	8	16	.....	1	1
1858-'59..	45	15	2	3	65	....	....	.....	....	....	.....	....	....	.....	1	...	1	12	5	17	6	5	11	6	2	8	22	5	27	1	1	2
1859-'60..	67	19	1	5	92	....	....	.....	....	....	.....	....	....	.....	....	....	.....	36	8	44	9	2	11	3	1	4	18	11	29	2	2	4
1860-'61..	60	30	4	1	95	....	....	.....	....	....	.....	....	....	.....	....	....	.....	38	15	53	5	3	8	2	...	2	19	11	30	.....	2	2
1861-'62..	172	11	2	1	186	....	....	.....	....	....	.....	....	....	.....	....	....	.....	128	4	132	12	1	13	1	...	1	32	5	37	1	2	3
1862-'63..	323	18	7	7	355	....	....	.....	....	....	.....	....	....	.....	....	2	2	228	5	233	36	6	42	2	4	6	62	8	70	2	2	4
1863-'64..	462	23	22	2	509	....	....	.....	....	....	.....	....	....	.....	....	....	.....	296	8	304	99	7	106	8	...	8	75	8	83	6	2	8
1864-'65..	452	34	26	2	514	....	....	.....	....	....	.....	....	....	.....	....	....	.....	264	7	271	66	7	73	13	1	14	125	21	146	10	....	10
1865-'66..	182	24	12	4	222	....	....	.....	....	....	.....	....	....	.....	1	...	1	97	5	102	21	4	25	10	1	11	55	14	69	11	4	15
1866-'67..	71	18	17	3	109	....	....	.....	....	....	.....	....	....	.....	....	...	.....	42	8	50	6	3	9	8	...	8	22	7	29	10	3	13
1867-'68..	105	28	15	5	153	....	....	.....	....	....	.....	....	....	.....	....	...	.....	53	15	68	7	6	13	6	2	8	39	9	48	15	1	16
1868-'69..	114	32	19	3	168	....	....	.....	....	....	.....	....	....	.....	1	...	1	51	10	61	17	9	26	9	2	11	42	14	56	14	....	14
1869-'70..	130	26	16	10	182	....	....	.....	....	....	.....	....	....	.....	1	...	1	35	11	46	23	9	32	11	3	14	58	8	66	19	5	24
1870-'71..	147	28	14	6	195	....	....	.....	....	....	.....	....	....	.....	1	...	1	52	10	62	25	9	34	4	2	6	61	12	73	19	1	20
1871-'72..	120	38	22	6	186	....	....	.....	....	....	.....	....	....	.....	....	...	.....	54	14	68	18	8	26	9	5	14	37	10	47	24	7	31
1872-'73..	130	37	23	14	204	....	....	.....	....	....	.....	....	....	.....	2	...	2	49	14	63	27	12	39	2	5	7	50	17	67	25	3	28
1873-'74..	165	28	27	10	230	....	....	.....	....	....	.....	....	....	.....	2	...	2	84	12	96	19	11	30	4	1	5	63	10	73	22	4	26
1874-'75..	155	37	24	14	230	....	....	.....	....	....	.....	....	....	.....	1	...	1	65	12	77	35	14	49	5	3	8	58	16	74	16	6	22
1875-'76..	136	37	30	10	213	....	....	.....	....	....	.....	....	....	.....	2	1	3	60	18	78	31	9	40	1	...	1	47	12	59	27	8	35
1876-'77..	119	37	28	14	198	....	....	.....	....	....	.....	....	....	.....	2	...	2	51	18	69	29	13	42	2	2	4	51	11	62	14	7	21
1877-'78..	109	31	29	13	182	....	....	.....	....	....	.....	....	....	.....	1	...	1	50	14	64	26	5	31	2	2	4	44	14	58	16	9	25
1878-'79..	138	42	31	11	222	....	....	.....	1	...	1	....	....	.....	1	1	2	56	22	78	35	5	40	4	3	7	48	14	62	27	9	36
1879-'80..	159	33	22	11	225	....	....	.....	....	....	.....	....	....	.....	3	...	3	60	13	73	24	10	34	....	4	4	62	13	75	35	4	39
1880-'81..	135	51	26	11	223	....	....	.....	....	....	.....	....	....	.....	2	2	4	57	12	69	25	16	41	1	4	5	47	23	70	31	7	38
1881-'82..	151	59	27	10	247	....	....	.....	....	....	.....	....	....	.....	1	3	4	56	15	71	34	8	42	3	6	9	54	27	81	31	13	44
1882-'83..	169	51	32	13	265	....	....	.....	....	1	1	....	....	.....	2	1	3	66	19	85	37	16	53	2	1	3	52	15	67	44	13	57
1883-'84..	245	54	41	7	347	....	....	.....	....	....	.....	....	....	.....	6	...	6	75	16	91	56	11	67	2	...	2	104	21	125	49	13	62
1884-'85..	203	72	26	19	320	....	....	.....	1	...	1	....	....	.....	5	...	5	71	24	95	54	14	68	2	2	4	66	26	92	36	25	61
1885-'86..	205	57	29	12	303	....	....	.....	....	....	.....	....	....	.....	6	1	7	58	16	74	44	13	57	4	2	6	77	18	95	51	20	71
1886-'87..	184	52	22	10	268	....	1	1	1	...	1	....	....	.....	8	1	9	35	12	47	31	20	51	1	...	1	69	15	84	70	15	85
1887-'88..	230	62	17	9	318	....	2	2	1	...	1	....	....	.....	8	2	10	67	21	88	43	16	59	1	...	1	80	20	100	56	14	70
1888-'89..	190	58	23	9	280	1	...	1	3	1	4	....	....	.....	10	2	12	43	14	57	34	15	49	1	4	5	73	16	89	62	18	80
1889-'90..	258	63	16	8	345	2	...	2	....	1	1	....	....	.....	13	3	16	47	15	62	45	12	57	....	2	2	91	19	110	91	23	114
1890-'91..	256	76	15	5	352	5	1	6	6	1	7	....	....	.....	15	1	16	41	20	61	46	10	56	3	3	6	71	16	87	110	32	142
1891-'92..	218	64	15	6	303	16	2	18	18	8	26	1	1	2	18	12	30	42	8	50	31	14	45	5	1	6	42	17	59	113	30	143
1892-'93..	236	69	25	15	345	33	4	37	15	11	26	3	...	3	26	6	32	33	4	37	15	11	26	3	...	3	26	6	32	184	63	247
Total.	6,354	1,498	710	294	8,856	57	10	67	46	23	69	4	1	5	140	41	181	2,586	463	3,049	1,079	339	1,418	151	77	228	2,002	539	2,541	1,246	374	1,620

The total number, 345, of admissions during the year is considerably above the average number of the past ten years, although it has been more than once exceeded during that time; but the number, 1,620, remaining June 30, 1893, and the total number, 1,942, under treatment during the year are without parallel in the hospital annals. It is probable that admissions will continue to exceed discharges and that for some years to come the population of the hospital must be expected to slowly increase. There is, however, still some consolation in knowing that this is by no means the hospital of largest population in the country.

The number of deaths was 181, or 9.32 per cent of the whole number under treatment. The average age of those remaining under care has been each year advancing by reason of the preponderance of men from the National Home for Disabled Volunteer Soldiers, who, as a rule, when broken down with age and mental infirmity, end their days here. Consequently the per cent of mortality will inevitably exceed that in hospitals whose inmates are drawn equally from all classes of the community in which they are situated. In this connection of advanced life it is also interesting to notice that in only 10 of those who died had the mental disease been of less than one year's duration. The remaining 171 had been insane for periods varying from one to forty-three years. The leading causes of death have been organic brain and pulmonary diseases, each class numbering 40 cases. Prostration from heat appears as an unusual cause of death in a hospital for the insane. The summer months of 1892 were the hottest known to our records. Exhaustion due to the high temperature, continued day and night, was no doubt an element in the fatal result in a considerable number of the chronic cases, but the three cases where the cause is given as prostration from heat were old, bedridden patients, who in the midst of a protracted term of torrid heat, without exposure to the sun's rays, suddenly presented the leading symptom of sunstroke. Two others similarly affected survived. Six fatal cases of dysentery occurred, which were undoubtedly of malarial origin. During the past year the partial filling of the extensive flats on the Eastern Branch of the Potomac bordering on the hospital grounds, thereby closing the swash channel and at each ebb of the tide exposing broad surfaces of mud, with acres of decomposing vegetable matter, has resulted in an unusual number of malarial cases among our inmates and employes. This filling is being done by the Government, and it is to be hoped that Congress will provide for the speedy completion of what has been regarded as a very necessary sanitary work for Washington, but which has thus far proved for the hospital a most unsanitary measure.

The per cent of recoveries, hardly more than one-fifth of the whole number of discharges including deaths, although a natural result of the conditions of the classes provided for, is well calculated to prevent any professional boasting of results. It is a noble work that hospitals do when they restore the reason and bring back the man. But it is no ignoble work when, incurable, they care for and protect him in his mental infirmity, making the most of what remains. In an asylum for soldiers who have given the best of their lives to their country this is for the most part what we have to do. To make that life, with its necessary limitations, as near as we can like the life outside with its occupations and diversions, but without its vices; this is what the best hospitals of to-day strive to accomplish. Hence these farms, gardens, and orchards, green lawns and graded walks, books, musical instru-

ments, and pictures, rides and excursions, dogs, poultry, and country surroundings that may seem homely, yet for them make it home. In this faith may we not expect the means to enable us to build farm cottages and plant working colonies on our new lands? For these broken minds life will then have the more in it, be the better worth living.

What has already been done? The old manor house and barn there have been renovated and occupied; a new shed has been built for the shelter of the young stock, and the fields are already taking on something of the aspect of a well-ordered farm, although in another sense the work is but just begun. The whole estate has been inclosed; such portions as were in condition to permit of this have been broken up, liberally fertilized, and planted in corn and root crops looking to the laying down in grain and grass another season. There is abundant road making, clearing, and grubbing up that will afford an opportunity for all the winter labor that can be made available for years to come. All this, as it will come more and more to depend on the labor of the inmates, must necessarily prove a somewhat protracted work, but it is safe to predict that each year will leave its impress, and in the end there will be found no more sightly or pleasant pastoral region, no fairer outlooks, no spot better fitted to bring content to darkened minds, than this new domain which the Board have named "Godding Croft."

The home tracts, known as the "Stevens" and "Sheppard" farms, have been successfully tilled and during the past year have yielded satisfactory returns. The vineyard in its season has contributed a pleasant dessert, and is each year increasing its production, while the orchards may almost every year be relied on to add something to a frugal fare.

Two large reservoirs have been built as an added protection against fire, one near the stock barns on the Sheppard farm, the other a basin which has replaced the duck pond directly in the rear of the main building, contiguous to the steamer house and convenient for use on most of the detached buildings. It is a circular brick basin, 90 feet in diameter, with a capacity of over 200,000 gallons of water. It is rather pleasing in appearance, but its great beauty will be found in its use should the hour of need ever come.

Congress at the last session provided for the construction of quarters for the distinct care of the epileptic insane. Plans for the pavilions for females have been prepared and contracts will be made for their erection during the present season. The intention is to provide those for the male epileptic during the coming spring. These, when completed, will afford most satisfactory provision for this unfortunate class, and will add another to the distinct classes of the insane who have been provided for in buildings especially arranged for their treatment in the enlightened progress of this hospital in the management of those committed to its care.

Estimates for the fiscal year ending June 30, 1895.

For current expenses	$363,000
For general repairs and improvements	16,000
For additional accommodations, viz: Cottages for workingmen	4,480
For special repairs and improvements, viz:	
Rebuilding machine and cabinet shop	7,000
For detached kitchen for Toner building	2,240
For electric plant	10,000

The estimate for current expenses is for the support, clothing, and treatment in the Government Hospital for the Insane, of the insane of

the Army and Navy, Marine Corps, Revenue-Cutter Service, inmates of the National Home for Disabled Volunteer Soldiers, persons charged with or convicted of crimes against the United States who are insane, all persons who have become insane since their entry into the military or naval service of the United States who have been admitted to the hospital and who are indigent; also, the indigent insane of the District of Columbia.

The estimate is based on a probable average number of 1,650 of the above classes, at an annual cost of $220 per capita. Congress has for many years divided the amount appropriated for this between the sundry civil and the District bill. Following the ratio of previous years, the increase in the District appropriation being based on the increase in the number of District patients during the past year, the amount in that bill will be $96,480, leaving $266,520 to be provided in the sundry civil bill. Of this it is asked that not exceeding $1,500 may be used in defraying the expenses of the return of patients to their friends.

The sum of $16,000 will be required for general repairs that are absolutely necessary to prevent deterioration from natural causes of decay and provide for the wear and deterioration incident to the class for which these buildings are fitted, as well as to introduce such improvements as are necessary to keep the hospital in the front rank of institutions for the treatment of the insane.

Even after the completion of the epileptic pavilions some further accommodations for inmates is needed, which can be most economically provided by the erection of two cottages for the working class on the land recently acquired for the hospital. The amount asked for these buildings is $4,480. Comfortable provision could thus be afforded for thirty male patients of the working class. Such an agricultural colony would in time become nearly self-supporting and be a practical demonstration of the value of useful occupation in the care of the chronic insane.

The cabinet and machine shop, after more than thirty-five years of almost daily use, has, owing to the settlement of its foundations, become unsafe for machinery, and has necessarily been abandoned as a workshop. This building is a prime necessity to the hospital and it must be rebuilt on a new and secure site. Seven thousand dollars will be required for the completion of this work, which is needed at once.

The kitchen of the Toner building or hospital for the sick, on account of its excessive heat and penetrating odors, should be removed from the basement of the same to a detached building. This becomes a necessity in the hot summers of this latitude. The same building can be made to serve as a kitchen for the epileptic pavilions to be built for the male inmates at a convenient distance from the hospital. A sufficient building for this can be completed for $2,240.

The sum of $10,000 will be required to complete the electric plant. The sum asked, on which the appropriation of $20,000 was made, was $22,500. Further study of the subject has shown that the original estimate was too small to provide properly for the large number of lights and the long distances over which the wires must be carried. Accordingly, beyond providing a suitable dynamo house, nothing has been expended. The number of directions in which electricity can be used to advantage in a hospital is constantly extending, and it is true economy to procure dynamos of ample power, even though the first cost of a plant be somewhat increased thereby.

To thoughtful friends who have aided us in many ways our acknowledgments are due. Mr. M. G. Copeland deserves special mention for

the pleasing and elaborate decoration of our large dining hall for the Easter Monday evening dance. It was fully appreciated by the old soldiers and admired by all who saw it. Friends have not been wanting to take part in our varied musical and theatrical entertainments, both in singing, acting, and looking on. A friend has given a set of garden tools for the ladies' flower garden; another has contributed seeds; a third has sent lily roots for the lake. And so we have arrived at varied gifts that are all welcome. Perhaps the most touching tribute was that of a noble old soldier who had left a limb on the battlefields of his country, and who, when the pension came, went away to his friends, but remembering the old home, sent the Superintendent a ten-dollar bill. This, together with a small sum left by a man whom the hospital authorities had befriended, which his daughter, herself a nurse in an English hospital and familiar with their needs, had requested to have used for the benefit of the inmates, was expended in the purchase of a music box for the ward of the halt and maimed and blind that had been the soldier's residence here, so that his former comrades might have the solitude and darkness of their lives stirred and awakened by its sweet strains.

We note one change in the medical staff of the hospital. Dr. C. A. Drew and his wife, who had been in charge of the Toner building since its opening, resigned their positions last April, the doctor having accepted that of first assistant physician to the new State hospital at Clarinda, Iowa. Dr. Drew was a growing man, doing painstaking and faithful work here. He has our best wishes for his success, and the assurance that both he and Mrs. Drew are pleasantly remembered at St. Elizabeth. Dr. G. W. Foster, of Salt Lake City, Utah, who more than ten years since was in charge of the female wards, and who resigned only on account of his health at that time, has returned to us with new vigor and added experience. Together with Mrs. Foster he has taken charge of the Toner building, and now they seem hardly to have been away. Otherwise the efficient medical staff is without change. All are cheerfully and efficiently doing their allotted work.*

Especial attention is called to the accompanying report of Dr. Blackburn, the pathologist. From a physician's standpoint the doctor's studies are careful and instructive. Dr. Calvert's dental work for the year has been satisfactory, looking to the comfort and better digestion, of our inmates. The condition of the mouths and teeth of the insane is too often neglected.

The changes in the force of employés have been unimportant. We recognize a gradual advance in the efficiency of the attendants, the graded rates having resulted in greater permanency, especially in the female department. This is particularly gratifying, as so much of the success of a hospital depends on kind, efficient and faithful nursing on the part of the attendants.

We have been spared from startling events; no serious trouble has arisen to interrupt our work; fire and pestilence have not come nigh our

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* Since the preparation of this report the Board have learned with deep regret of the decease of the Rev. A. Floridus Steele, one of the chaplains of the hospital, which occurred after a brief illness on the 28th of August, 1893. Mr. Steele has, as the representative of the Episcopal Church, ministered to the spiritual needs of the inmates through a period of more than twenty years, and has rendered most acceptable service. His kindly presence and words of sympathy are pleasantly remembered and will be greatly missed.

dwelling; and with grateful hearts we commend the keeping of this great household to the Power that heedeth the sparrow's fall, and its wants to a nation's charity that never faileth.

We are, sir, very respectfully,

J. M. TONER,
President.
W. W. GODDING,
Secretary ex officio.

Hon. HOKE SMITH,
Secretary of the Interior.

GOVERNMENT HOSPITAL FOR THE INSANE,
Washington, D. C., August 31, 1893.

SIR: In accordance with the act of Congress approved June 4, 1880, requiring the Superintendent of the Government Hospital for the Insane to make a report to Congress annually of the detailed expenditures of the hospital for the preeeding fiscal year, I have the honor to submit the following statement.

I am, sir, very respectfully, your obedient servant,

W. W. GODDING,
Superintendent.

Hon. HOKE SMITH,
Secretary of the Interior.

Supplementary to June 30, 1892.

On hand, deficiency in support $565.99

EXPENDITURES.

Tea	489.21
Advertising	7.50
Covered into United States Treasury on deficiency in support	69.28
	565.99

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1892 (supplementary).

Date.	Furnished by—	Voucher No.	Tea.	Advertising.	Grand total.
1892. June 30	James Dundon	1015	$489.21	.....	$489.21
	The manufacturer	1016	.....	$7.50	7.50
			489.21	7.50	496.71

Detailed statement of receipts and expenditures for the fiscal year ending June 30, 1893.

RECEIPTS.

Appropriation for support	$268,300.00
Appropriation for District of Columbia	94,700.00
Appropriation for buildings and grounds	25,000.00
Appropriation for repairs and improvements	16,000.00
Miscellaneous receipts	34,133.87
On hand, buildings and grounds	12,200.00
On hand, repairs and improvements	15.67
	450,349.54

EXPENDITURES.

Subsistence:		
Flour, meal, and crackers	$14,449.67	
Ice	2,506.22	
Butter, cheese, and eggs	22,983.11	
Fresh meat	22,879.68	
Salt and smoked meats	6,644.86	
Fish and poultry	5,572.93	
Tea and coffee	8,663.02	
Sugar and molasses	6,329.25	
Lard	972.47	
Fruits and vegetables	8,584.56	
Other groceries	12,773.80	
		112,359.57
House furnishing, fuel, lights, etc.:		
Furniture, fixtures, etc	6,855.50	
Bedding	5,955.89	
Table and towel linen	1,467.09	
Utensils, crockery, etc	3,208.05	
Kitchen fittings	263.16	
Laundry supplies	2,746.51	
Carpets	1,111.37	
Hard coal	13,261.41	
Soft coal	108.00	
Wood	377.31	
Lights, oils, etc	1,665.09	
		37,019.38
Dry goods and clothing, books, stationery, and miscellaneous:		
Boots, shoes, and slippers	4,189.10	
New clothing	16,928.04	
Clothing material	7,486.19	
Hats	310.10	
Notions	1,445.37	
Books and periodicals	745.10	
Stationery and postage	757.11	
Freight and hauling	622.00	
Incidental work	199.43	
Advertising	99.38	
Electrical instruments	224.95	
Photographic instruments	240.25	
		33,247.02
Medical supplies, expended for amusement of patients, etc.:		
Drugs, medicines, etc	2,288.96	
Alcoholic stimulants	1,007.58	
Instruments, etc	188.54	
Returning eloped patients	123.70	
Amusement of patients	3,875.75	
Sending to their homes	167.45	
Refunded board money	70.28	
Pathological supplies	249.08	
		7,971.34

Farm, garden, and stable:		
Feed	$11,184.44	
Implements, horseshoes, etc	1,629.87	
Plants and seeds	1,046.25	
Manures	1,213.88	
Live stock	2,651.50	
Harness and repairs	474.87	
Vehicles and repairs	1,092.14	
Hay and straw	2,684.31	
Incidental expenses	826.01	
		$22,803.27
Repairs and improvements:		
Lumber, doors, etc	4,445.20	
Hardware, etc	2,238.20	
Engineers and plumbers' supplies	8,785.25	
Paints, oils, glass, etc	2,033.52	
Roofing	488.21	
Iron work, etc	1,315.49	
Plastering, etc	284.40	
Sundry small repairs	1,399.36	
Fire and other apparatus	385.00	
Masons' supplies	5,039.96	
		26,414.59
Salaries and wages:		
Superintendent, physicians, and general office	24,010.40	
Ward service	64,298.02	
Inside domestic department	20,581.64	
Engineer's department	10,056.76	
Farm and garden, hauling coal, drivers, etc	33,548.07	
Mechanics and helpers	23,845.71	
Making clothing	1,590.24	
Laundry	6,344.53	
Sunday service	500.00	
		184,775.37
Overdrawn on buildings and grounds	11.54	
On hand, support	61.78	
On hand, repairs and improvements	160.26	
On hand, buildings, and grounds	25,509.75	
Covered into the United States Treasury on repairs and improvements	15.67	
		450,349.54

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893.

SUBSISTENCE.

Date.	Furnished by—	Voucher No.	Flour, meal, and crackers.	Ice.	Butter, cheese, and eggs.	Fresh meat.	Salt and smoked meats.	Fish and poultry.	Tea and coffee.	Sugar and molasses.	Lard.	Fruits and vegetables.	Other groceries.	Grand total.
1892.														
July 23	Emma Ferguson	9										$61.75		
30	Geo. M. Oyster	14			$567.84									
30	John Arbuckle	18							$581.99					
30	The C. W. Kopf Company	19											$220.00	
30	Jas. F. Oyster	22			1,218.01									
30	John D. Broadus	23										91.37		
30	Chas. King and Son	24								$1,493.99			9.75	
30	W. M. Galt & Co	30	$961.26											
30	M. Hano & Co	32				$1,068.37								
30	J. T. Varnell & Son	33				153.22	$77.85							
30	Somerset R. Waters	34											111.38	
30	W. E. Stuart	36						$43.73						
30	Washington Packing Company	37					146.22							
30	G. Taylor Wade	38										72.50		
30	Hyman Powdermaker	39					199.00							
30	G. G. Cornwell & Son	40	56.22						21.76				76.27	
30	Jas. L. Barbour & Son	41											476.05	
30	Frank Hume	43	123.74				54.43		147.60	12.93				
30	R. A. Golden	46						93.82						
30	C. Denekas	47											26.08	
30	B. B. Earnshaw & Bro	64	88.40										75.37	
Aug. 31	Mary P. Godding	81										45.95		
31	W. E. Stuart	82						61.56						
31	Emma Ferguson	90										25.73		
31	C. Denekas	93											28.51	
31	J. T. Varnell & Son	94				1,228.56	56.11							
31	John Arbuckle	97							354.73					
31	Jas. F. Oyster	98			1,512.37									
Aug. 31	W. M Galt & Co	99	1,278.50											
31	Hyman Powdermaker	103					237.89							
Sept. 3	R. L. Hyde	123						10.50						
10	John D. Broadus	126										9.94		
17	Rose Howard	133										37.50		
30	Emma Ferguson	144										67.88		
30	Washington Packing Co	150					566.75							
30	John Arbuckle	154							291.36					
30	Chas. F. Mattlage	155					74.50							
30	Chas. E. Ahrens	163											140.82	
30	J. E. Bayliss & Co	167										48.00		

	30	Jas. F. Oyster	172			1,903.21								
	30	J. T. Varnell & Son	174				1,550.79	147.76						
	30	Schafer & Clary	182									15.00		
	30	W. S. Anderson & Co	183									15.00		
	30	J. B. Bryan & Bro	184								15.00			
	30	Browning & Middleton	186							36.74			32.47	
	30	R. A. Golden	187						128.15					
	30	Jas. La Fontaine	188						35.15					
	30	E. J. Adams & Co	190									30.00		
	30	C. Denekas	195										28.15	
	30	Great Falls Ice Co	196		$1,119.16									
	30	H. L. Strang	197									248.90		
	30	W. M. Galt & Co	199	820.70										
	30	Mary P. Godding	201									7.65		
	30	A. F. Kingsley & Son	208									6.75		
	30	Francis H. Leggett & Co	225										121.01	
Oct.	15	Rose Howard	227									10.50		
	25	J. E. Bayliss & Co	233									45.00		
	31	Hyman Powdermaker	251					687.39						
	31	M. Hano & Co	253				1,688.26							
	31	John Arbuckle	255							373.49				
	31	Kingsley Bros. Creamery Co	265			583.46								
	31	Somerset R. Waters	267								83.18		520.13	
	31	James La Fontaine	270						36.92					
	31	Matthewson & Co	271			46.00								
	31	H. C. Coburn	272			60.21								
	31	J. J. Hogan	273						86.60					
	31	W. E. Stewart	274						63.33					
	31	Charles H. Javins & Sons	275						71.00					
	31	C. Denekas	276										27.82	
	31	G. Taylor Wade	277									73.50		
	31	James L. Barbour & Son	286	25.00						243.83			640.93	
	31	Evander French	287									22.97		
Nov.	26	Washington Packing Co	326					72.96			$173.33			
	30	Frank W. Pousland	336									266.00		
	30	James F. Oyster	339			3,025.06								
	30	W. E. Stewart	341				12.72							
	30	Coburn & Struthers	349									39.53		
	30	Washington Packing Co	350					101.35			161.62			
	30	H. C. Coburn	354			59.40								
	30	C. Denekas	355										27.38	
	30	J. J. Hogan	356						77.80					
	30	William W. Leishear & Son	357									18.00		
	30	R. A. Golden	358						560.89					
	30	B. Charlton & Co	359	100.00										
	30	Loving & Hammer	260						13.66					
	30	Charles H. Javins & Sons	361						12.25					
	30	H. Kohnstamm & Co	362										21.97	
Dec.	31	M. Hano & Co	428				2,121.14							
	31	S. S. Boardman	433									30.53		
	31	John Arbuckle	434							815.45				
	31	Hyman Powdermaker	436					453.97						

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

SUBSISTENCE—Continued.

Date.	Furnished by—	Voucher No.	Flour, meal, and crackers.	Ice.	Butter, cheese, and eggs.	Fresh meat.	Salt and smoked meats.	Fish and poultry.	Tea and coffee.	Sugar and molasses.	Lard.	Fruits and vegetables.	Other groceries.	Grand total.
1892.														
Dec. 31	Rabbitt & Crown	439						$647.22				$102.31		
31	J. T. Varnell & Son	441				$1,696.93	$569.56							
31	Chas. King & Son	442								$1,371.70			$3.25	
31	Frank Hume	443								104.96			867.88	
31	W. M. Galt & Co	445	$2,790.00											
31	G. G. Cornwell & Son	446	346.99						$304.80				141.60	
31	Mary P. Godding	447										63.48		
31	Somerset R. Waters	449								116.09			328.66	
31	W. S. Anderson & Co	450										84.00		
31	B. B. Earnshaw & Bro	453	442.00										341.04	
31	Jas. F. Oyster	454			$2,054.35									
31	Jas. L. Barbour & Son	455											645.20	
31	Matthewson & Co	461			337.44							6.00		
31	Washington Packing Co	468					47.90				$83.53			
31	J. C. Ergood & Co	470											102.37	
31	S. Jefferson's Sons	472						68.58						
31	Great Falls Ice Co	476		$461.97										
1893.														
Jan. 31	W. W. Conner	506			6.75									
31	N. W. Burchell	518											59.14	
31	Hyman Powdermaker	522					199.00							
31	Geo. W. Harvey	526						38.70						
31	Arthur H. Bailey	528											391.22	
31	C. Denekas	530											55.85	
31	Adams & Brawner	536						68.70						
31	E. J. Adams & Co	537										561.00		
31	Jas. F. Oyster	544			1,926.15									
31	W. M. Galt & Co	545	1,301.65											
31	J. T. Varnell & Son	548				1,424.59	141.91							
31	G. Taylor Wade	549										849.78		
31	Bernard Murphy	550											61.44	
31	Chas. King & Son	551								476.54				
31	J. J. Hogan	552						253.05						
31	B. B. Earnshaw & Bro	553	88.40										99.40	
31	Chas. E. Aherns	555											286.11	
31	S. S. Boardman	556										283.12		
31	Jas. La Fontaine	557						58.11						
31	Luchs & Bro	558											257.95	

	31	Mathewson & Co	566			131.90								
	31	R. A. Golden	561						244.29					
	31	G. C. Cornwell & Son	563	80.63						285.00			43.23	
	31	Schafer & Clary	564									832.25		
	31	Jas. L. Barbour & Son	566	10.00					164.63				545.84	
	31	Mary P. Godding	567										56.92	
	31	John Arbuckle	568							589.82				
	31	Miller & Roller	571						49.56					
	31	Great Falls Ice Co	572		81.77									
Feb.	28	W. W. Conner	594			11.53								
	28	G. A. Taylor	598			25.65								
	28	W. E. Burrows	600									646.51		
	28	John Arbuckle	607							620.23				
	28	Chas. King & Son	608								630.82			
	28	Francis H. Leggett & Co	620										103.56	
	28	Washington Packing Co	621					100.17						
	28	John Boyle	622						8.00					
	28	Browning & Middleton	627							81.06			15.33	
	28	Frank Hume	629							221.00			314.40	
	28	J. C. Ergood & Co	631										52.45	
	28	G. G. Cornwell & Son	634	63.82						243.30			15.00	
	28	Jas. F. Oyster	637			1,897.00								
	28	B. B. Earnshaw & Bro	640	88.40									143.56	
	28	Somerset R. Waters	641								121.79		309.58	
	28	W. M. Galt & Co	642	865.90										
	28	Great Falls Ice Co	644		110.90									
	28	J. J. Hogan	650						68.75					
	28	Hyman Powdermaker	651					398.00						
	28	G. Taylor Wade	652									42.50		
	28	R. A. Golden	653						225.90					
	28	J. T. Varnell & Son	655				1,410.55	169.86						
	28	Jas. L. Barbour & Son	656						114.28				306.91	
	28	C. Denekas	659	25.75									22.93	
	28	S. Jefferson's Sons	660						69.25					
	28	Mathewson & Co	661			128.70								
Mar.	16	Wm. Edwards	686			2.34								
	21	G. A. Taylor	689			14.54								
	29	L. C. Rines & Co	696							235.20				
	30	Mary P. Godding	698										99.83	
	31	W. W. Conner	701			12.37								
	31	Chas. King & Son	706								672.94			
	31	Chas. E. Ahrens	810										80.55	
	31	John Arbuckle	716							357.64				
	31	Chas. F. Mattlage	717					80.01						
	31	Browning & Middleton	725										7.65	
	31	J. C. Ergood & Co	729										44,98	
	31	B. B. Earnshaw & Bro	733	105,65									102.77	
	31	H. L. Strang	734									190.25		
	31	Washington Packing Co	735					204.91						
	31	R. A. Golden	736						199.92					
	31	Adams & Brawner	738						52.78					
	31	Mathewson & Co	739			105.30								

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

SUBSISTENCE—Continued.

Date.	Furnished by—	Voucher No.	Flour, meal, and crackers.	Ice.	Butter, cheese, and eggs.	Fresh meat.	Salt and smoked meats.	Fish and poultry.	Tea and coffee.	Sugar and molasses.	Lard.	Fruits and vegetables.	Other groceries.	Grand total.
1893.														
Mar. 31	C. Denekas	748											$37.51	
31	Geo. J. Mueller	750											164.89	
31	J. B. Bryan & Bro	751											21.25	
31	B. Charlton & Co	752											77.36	
31	Philips Bros	754					$34.60							
31	S. Jefferson's Sons	756						$12.61						
31	Schafer & Clary	757										$330.50		
31	Lucks & Bro	758											104.00	
31	Bernard Murphy	761											15.36	
31	J. J. Hogan	762						296.20						
31	E. J. Adams & Co	763										1,193.65		
31	J. T. Varnell & Son	765				$1,447.54	196.15							
31	Rabbitt & Crown	766						100.19						
31	W. M. Galt & Co	770	$864.10											
31	James F. Oyster	771			$1,899.60									
31	G. Taylor Wade	774										17.00		
31	G. G. Cornwell & Son	775	87.43						$299.10				13.20	
31	James L. Barbour & Son	777	5.00					167.30					385.17	
31	Great Falls Ice Company	778	126.86											
31	Frank Hume	779											211.37	
31	Somerset R. Waters	783								$63.61			238.85	
Apr. 26	W. W. Conner	825			7.76									
29	George M. Oyster	831			879.76									
29	Washington Packing Co	834					235.52				$140.94			
29	James F. Oyster	837			888.12									
29	John Arbuckle	841							364.20					
29	Charles King & Son	844								153.04				
29	H. C. Coburn	857										360.87		
29	M. Hano & Co	859				1,570.25								
29	Philips Bros	861					7.00							
29	Schafer & Clary	862										7.00		
29	E. J. Adams & Co	863										47.25		
29	Adams & Brawner	865			18.00									
29	Hyman Powdermaker	866				22.22	109.25							
29	R. A. Golden	867						192.33						
29	Somerset R. Waters	868								59.28			114.83	
29	Frank Hume	869								13.25			154.04	
29	J. J. Hogan	871						104.45						
29	J. T. Varnell & Son	872				1,140.39	207.43							

	29	J. B. Bryan & Bro	876										2.00	
	29	Charles E. Ahrens	878										16.47	
	29	S. Jefferson's Sons	883					16.80						
	29	Rabbitt & Crown	885					45.14						
	29	B. B. Earnshaw & Bro	888	117.15									137.99	
	29	W. M. Galt & Co	893	936.00										
	29	H. L. Strang	894									74.80		
	29	Browning & Middleton	897						39.30				8.93	
	29	J. C. Ergood & Co	899										24.58	
	29	G. G. Cornwell & Son	900	60.71					135.90				7.50	
	29	Great Falls Ice Company	907		$151.70									
	29	C. Denekas	910										26.32	
May	16	William Edwards	943			3.40								
	27	W. W. Conner	948			1.50								
	31	M. Hano & Co	957				3,107.29							
	31	Washington Packing Company	960					268.83			301.02			
	31	James F. Oyster	965			1,850.77								
	31	Charles E. Ahrens	967									70.55		
	31	Francis H. Leggett & Co	969										41.70	
	31	Charles King & Son	975							752.72			4.00	
	31	J. E. Bayliss & Co	978									16.72		
	31	D. William Oyster	980			193.62								
	31	Schafer & Clary	982									4.00		
	31	E. J. Adams & Co	984									233.52		
	31	J. B. Bryan & Bro	986										9.50	
	31	John Arbuckle	996						356.19					
	31	Great Falls Ice Company	999		215.47									
	31	Frank Hume	1000										122.59	
	31	R. A. Golden	1001					266.61						
	31	Hyman Powdermaker	1002				73.80	215.62						
	31	G. Taylor Wade	1003									126.61		
	31	Jas. L. Barbour & Son	1004	86.00									572.06	
	31	H. L. Strang	1006									176.23		
	31	B. B. Earnshaw & Bro	1007	117.15									136.52	
	31	S. Jefferson's Sons	1008					37.50						
	31	W. M. Galt & Co	1010	936.00										
	31	Browning & Middleton	1011						20.40	3.25			8.18	
	31	C. Denekas	1015										26.37	
	31	J. J. Hogan	1017					23.08						
	31	G. G. Cornwell & Son	1018	239.02									19.27	
	31	J. C. Ergood & Co	1021										34.49	
	31	Mary P. Godding	1025									141.25		
	31	Somerset R. Waters	1027							60.04			181.96	
	31	Arthur H. Bailey	1033										486.77	
	31	Phillips Bros	1053					1.40						
June	10	Chas. McKenzie	1059									75.00		
	10	Emma Ferguson	1060									96.25		
	10	Rose Howard	1061									65.95		
	24	Emma Ferguson	1068									55.00		
	24	Rose Howard	1069									30.07		
	30	Maria Wormley	1077									2.25		
	30	Dundon & Rines	1086						144.20					

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

SUBSISTENCE—Continued.

Date.	Furnished by—	Voucher No.	Flour, meal, and crackers.	Ice.	Butter, cheese, and eggs.	Fresh meat.	Salt and smoked meats.	Fish and poultry.	Tea and coffee.	Sugar and molasses.	Lard.	Fruits and vegetables.	Other groceries.	Grand total.
1893.														
June 30	Washington Packing Co	1095					$106.32							
30	Geo. M. Oyster	1097			$306.88									
30	D. Wm. Oyster	1099			354.50									
30	M. Hano & Co	1101				$1,488.83								
30	James F. Oyster	1104			949.62									
30	E. J. Adams & Co	1111										$323.07		
30	R. D. Weaver	1113				1,315.65								
30	Chas. F. Mattlage	1119				71.74								
30	Hyman Powdermaker	1125				143.42	80.10							
30	Jas. L. Barbour & Son	1126	$83.00					$532.75					$192.28	
30	Mary P. Godding	1128										70.27		
30	Frank Hume	1129											227.53	
30	J. B. Bryan & Bro	1131											2.00	
30	J. T. Varnell & Son	1140				143.42	395.14							
30	J. J. Hogan	1142						4.00						
30	R. A. Golden	1146						78.38						
30	G. Taylor Wade	1149										12.50		
30	Great Falls Ice Co	1150		$365.25										
30	Somerset R. Waters	1151									$124.12		263.97	
30	W. M. Galt & Co	1154	951.00											
30	B. B. Earnshaw & Co	1155	117.15										112.40	
30	Rabbitt & Crown	1156						68.51						
30	Browning & Middleton	1166							$19.62				15.35	
30	J. C. Ergood & Co	1167											51.53	
30	G. G. Cornwell & Son	1170	60.09						701.10					
30	H. L. Strang	1173										103.10		
30	C. Denekas	1177											23.92	
30	John Arbuckle	1202							478.01					
	Total		14,449.67	2,506.22	22,983,11	22,879.68	6,644.86	5,572.93	8,663.02	$6,329.25	972.47	8,584.56	12,773.80	$112,359.57

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

HOUSE FURNISHING, FUEL, LIGHTS, ETC.

Date.	Furnished by—	Voucher No.	Furniture, fixtures, etc.	Bedding.	Table, and towel linen.	Utensils, crockery, etc.	Kitchen fittings.	Laundry supplies.	Carpets.	Hard coal.	Soft coal.	Wood.	Lights, oils, etc.	Grand total.
1891														
July 20	T. J. Clark	5									$12.00			
30	H. Hoffa	13	$75.00											
30	R. J. Kennedy	15								$3,146.14				
30	Henry G. Cordley	16				$235.47								
30	Hartford Woven Wire Mattress Co	25	451.81											
30	J. H. Chesley & Co	28	67.74											
30	S. S. Shedd & Bro	29	127.70											
30	Weaver, Kengla & Co	31						$185.00						
30	Frank Hume	43						15.27						
30	Louis A. Dieter	45	104.01											
Aug. 27	Jas. N. Gunnell	75									12.00			
31	A. P. McElroy	88	6.50											
31	Weaver, Kengla & Co	95						369.99						
Sept. 30	Schaum & Uhlinger	158						376.20						
30	H. Kohnstamm & Co	159						48.00						
30	Schlessinger, Wessner & Co	161		$432.00										
30	Paul Hiser, jr., & Co	165				39.38								
30	Chas. H. Nicolai	168											$340.56	
30	H. O. Towles	181	61.25											
30	J. T. Walker Sons	192	20.00											
30	Wm. E. Hodge	200										$105.00		
30	Jordan, Marsh & Co	226	31.72		$45.00									
Oct. 17	Henry Henson	229	.75											
18	W. A. Richwine	230	1.75											
31	Henry G. Cordley	256				177.50								
31	The Manhattan Supply Co	257		802.57										
31	Geo. M. Stevens	261	275.00											
31	Washington Gaslight Co	268					$20.00							
31	Poole & Brooke	280											32.10	
31	Wash. B. Williams	281	660.42											
31	Jas. L. Barbour & Son	286						59.51						
Nov. 29	Joseph F. Willett	327		22.50										
30	John White	330		22.88										
30	H. Hoffa	342	71.35											
30	Thos. G. Hood	346		1,343.66	468.58									
30	Frost Veneer Seating Co	384	1,414.05											
30	Jordan, Marsh & Co	387			75.00									
Dec. 13	J. N. Gunnell	391									12.00			

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

HOUSE FURNISHING, FUEL, LIGHTS, ETC.—Continued.

Date.	Furnished by—	Voucher No.	Furniture, fixtures, etc.	Bedding.	Table and towel linen.	Utensils, crockery, etc.	Kitchen fittings.	Laundry supplies.	Carpets.	Hard coal.	Soft coal.	Wood.	Lights, oils, etc.	Grand total.
1892.														
Dec. 28	Henry P. Armstrong	415		$23.70										
31	A. R. Williams	426								$10,115.27				
31	W. D. Pyles	438										$27.50		
31	M. W. Beveridge	440				$1,009.97								
31	Chas. King & Son	442				18.25								
31	Frank Hume	443						$38.87						
31	W. B. Moses & Sons	451	$471.40						$164.35					
31	Weaver, Kengla & Co	456						297.59						
31	Julius Lansburgh	457	73.75						577.67					
31	Alex. Milne	474	17.90											
31	Chas. H. Nicolai	475											$325.85	
1893.														
Jan. 28	Jas. N. Gunnell	503									$12.00			
31	W. F. Nash	507					$6.30							
31	F. Blaine	510		19.50										
31	Weaver, Kengla & Co	511						299.07						
31	Union Oil Co	512						66.09						
31	Smith & Anthony Stove Co	513					139.12							
31	Poland Laundry Machine Co	516						3.60						
31	Marshal Field	525			$51.25									
31	Chas. H. Nicolai	532											209.47	
31	Thos. G. Hood	534		556.28										
31	Geo. Blaine	538		32.44										
31	Lansburgh & Bro	541		343.56	5.40									
Feb. 28	Jas. N. Gunnell	593									12.00			
28	W. D. Pyles	599										68.06		
28	Chas. H. Nicolai	601											182.53	
28	Chas. King & Son	608				17.50								
28	Thos. G. Hood	609		251.60	214.15									
28	Henry G. Cordley	611				177.25								
28	Henry C. Harper	612			45.12									
28	H. Kohnstamm & Co	618						47.50						
28	Poole & Brooke	624											36.50	
28	F. P. May & Co	626				7.00								
28	Frank Hume	629						20.82						
28	Melville Lindsay	632	337.35											
28	Troy Laundry Machine Co	648						300.00						
28	Hayward & Hutchinson	654	13.00											
Jan. 31	M. Mahoney	682						6.28						

Mar. 28	W. A. Pate	694									176.75		
31	S. S. Shedd & Bro	703	283.50										
31	Louis A. Dieter	705	147.41										
31	M. Mahoney	708				7.84							
31	Thos. G. Hood	709		62.25									
31	Union Oil Company	711					60.18						
31	F. Petersen	721						161.55					
31	M. Silverberg & Co	722	205.10										
31	Poole & Brooke	726										11.75	
31	W. H. Hanover	741				60.95							
31	Wash. B. Williams	742	148.50										
31	Julius Lansburgh	745	117.49										
31	Woodward & Lothrop	749	30.68										
31	Chas. T. Carter & Co	784	65.26										
31	M. W. Beveridge	787			309.58								
Apr. 11	Jas. N. Gunnell	816								12.00			
29	....do	835								12.00			
29	Thos. G. Hood	839	320.83	36.0									
29	W. H. Thomas & Co	847	112.50										
29	Union Oil Company	854					92.32						
29	Weaver, Kengla & Co	873					296.29						
29	J. H. Chesley & Co	880			31.68								
29	Guy, Curran & Co	887	2.75										
29	Lewis Baar, agent	892	18.56										
29	Chas. T. Carter & Co	903	14.26										
29	Melville Lindsay	906	31.36										
29	M. W. Beveridge	908			60.21								
29	S. S. Shedd & Bro	911	9.00										
29	Chas. H. Nicolai	916										354.03	
29	Hayward & Hutchinson	918				20.00							
29	W. B. Moses & Sons	919	270.64										
May 23	Jas. N. Gunnell	947								12.00			
31	Henry C. Harper	972		24.06									
31	A. P. McElroy	976			62.00								
31	Blum Bros	992						52.50					
31	M. G. Copeland & Co	998	66.00										
31	Frank Hume	1000					5.55						
31	M. W. Beveridge	1005			102.35								
31	W. H. Harrover	1019	7.75										
31	Melville Lindsay	1026	116.62										
31	L. W. Loomis	1031			651.44								
June 13	Jas. N. Gunnell	1062								12.00			
30	H. Hoffa	1096	24.00										
30	Wash. B. Williams	1100	398.90										
30	Thos. G. Hood	1107		1,237.50	340.93								
30	Union Oil Co	1108					64.38						
30	Weaver, Kengla & Co	1110					38.77						
30	M. Mahoney	1122				5.00							
30	Jas. L. Barbour & Son	1126					48.29						
30	Frank Hume	1129					6.94						
30	Lewis Barr, agent	1133	61.90										
30	S. S. Shedd & Bro	1136	3.20										

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

HOUSE FURNISHING, FUEL, LIGHTS, ETC.—Continued.

Date.	Furnished by—	Voucher No.	Furniture, fixtures, etc.	Bedding.	Table and towel linen.	Utensils, crockery, etc.	Kitchen fittings.	Laundry supplies.	Carpets.	Hard coal.	Soft coal.	Wood.	Lights, oils, etc.	Grand total.
1892.														
June 30	W. H. Harrover	1137					$3.95							
30	Chas. H. Nicolai	1144											$151.90	
30	Chas. King & Son	1145				$13.00								
30	Henry C. Harper	1153		$196.76	$66.10									
30	Lansburgh & Bro	1158		27.32	33.25									
30	J. H. Chesley & Co	1160				101.66								
30	Melville Lindsay	1162	$24.00											
30	Poole & Brooke	1164											20.40	
30	W. B. Moses & Sons	1165	107.18						$155.30					
30	Julius Lansburgh	1168	364.60											
30	F. P. May & Co	1171				19.30								
30	M. W. Beveridge	1172				174.51								
30	M. G. Copeland & Co	1175	114.50											
30	Thos. G. Hood	1209		176.18										
	Total	.....	6,855.50	5,955.89	1,467.09	3,208.05	263.16	$2,746.51	1,111.37	$13,261.41	$108.00	$377.31	1,665.09	$37,019.38

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

DRY GOODS AND CLOTHING, BOOKS, STATIONERY, AND MISCELLANEOUS.

Date.	Furnished by—	Voucher No.	Boots, shoes, and slippers.	New clothing.	Clothing material.	Hats.	Notions.	Books and periodicals.	Stationery and postage.	Freight and hauling.	Incidental work, etc.	Advertising.	Electrical instruments.	Photographic instruments, etc.	Grand total.
1892.															
July 11	Frank Aldrich	1									$12.00				
30	Geo. W. Knox Express	26								$42.07					
30	Baltimore and Potomac R. R. Co	27								.82					
30	People's Dispatch and Transfer Co	35								2.70					
30	Adams Express Co	44								1.90					
30	Geo. W. Knox Express	2								.92					
30	Baltimore and Ohio R. R. Co	7								19.98					
Aug. 31	S. Bieber	84		$3,480.00											
31	Wm. D. Clark & Co	85					$93.07								
31	P. Blakiston, Son & Co	86						$10.00							
31	Geo. W. Knox Express	100								84.35					
31	Baltimore and Potomac R. R. Co	101								.44					
31	People's Dispatch and Transfer Co	102								1.50					
31	Robert Head	10									15.00				
31	Augustus Thomas	122			$521.40										
Sept. 12	Charles Green	127	$3.00												
30	Baltimore and Potomac R. R. Co	145								66.00					
30	Washington City post-office	149							$53.00						
30	Wm. Demaine & Son	151									20.00				
30	G. Alder Blumer	152						5.00							
30	E. W. Woodruff	160							8.00						
30	Joseph Gawler	171									25.00				
30	Department of the Interior	173							38.51						
30	The Washington Post Co	175						43.20							
30	Jas. J. Chapman	179							6.85						
30	Wm. Ballantyne & Son	180						10.55							
30	W. D. Clark & Co	189					41.00								
30	Fred A. Schmidt	191							4.40						
30	Peoples' Dispatch and Transfer Co	203								2.85					
30	Chas. Fischer	205									.85				
30	Adams Express Co	206								1.60					
30	Geo. W. Knox Express	207								9.45					
30	....do	328								40.00					
Oct. 25	R. and P. C. Lockwood	234							14.34						
31	Henry C. Harper	254		895.56			494.32								
31	A. Lisner	269			478.39										
31	J. B. Chamberlain	282													$64.20
31	National Democrat	283						14.70							

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

DRY GOODS AND CLOTHING, BOOKS, STATIONERY, AND MISCELLANEOUS—Continued.

Date.	Furnished by—	Voucher No.	Boots, shoes, and slippers.	New clothing.	Clothing material.	Hats.	Notions.	Books and periodicals.	Stationery and postage.	Freight and hauling.	Incidental work, etc.	Advertising.	Electrical instruments.	Photographic instruments, etc.	Grand total.
1892.															
Oct. 31	Adams Express Co	288								$2.45					
31	U. S. Express Co	305								.40					
31	Geo. W. Knox	306								29.34					
Nov. 19	L. Vibond	316									$3.00				
21	Abbie F. Brooks	317						$6.50							
21	Baltimore and Ohio R. R. Co	328								52.80					
30	S. Bieber	340		$1,588.62											
30	Thos. G. Hood	346			$1,272.40										
30	Wm. Hahn & Co	347	$1,652.90												
30	B. Rich & Sons	348	348.60		110.20	$182.90	$36.50								
30	J. V. Calver	351									3.00				
30	People's Dispatch and Transfer Co	364								1.00					
30	Adams Express Co	365								1.85					
30	Samuel Springman	366								1.50					
30	U. S. Express Co	367								.80					
30	Baltimore and Ohio R. R. Co	34								13.68					
30	Sullivan & Bro	386					40.65								
30	Jordan, Marsh & Co	387			24.69										
Dec. 31	W. W. Godding	422									35.31				
31	Washington City post-office	427							$53.00						
31	The Department of the Interior	448							43.17						
31	Jos. Auerbach	452		526.38											
31	Wm. D. Clark & Co	458			68.47										
31	Guy, Curran & Co	459					111.05								
31	Geo. W. Knox Express	464								54.67					
31	Adams Express Co	465								2.20					
31	People's Dispatch and Transfer Co	466								1.50					
31	Geo. N. Rider	469						15.00							
31	Washington Post Co	471						33.60							
31	United States Express Co	477								.30					
31	Samuel Bieber	478		1,321.50											
31	Geo. W. Knox Express	37								1.21					
1893.															
Jan. 13	Geo. Connell	500								1.75					
31	Sullivan & Bro	524					18.33								
31	Thos. G. Hood	534			396.54										
31	W. Andrew Boyd	540						5.00							
31	Lansburgh & Bro	541			959.67		56.05	37.74							

	31	W. D. Clark & Co	554					60.27							
	31	Blum Bros	565			254.37									
	31	Baltimore and Potomac R. R. Co	569								1.71				
	31	Adams Express Co	570								3.25				
	31	Geo. W. Knox Express	573								18.16				
	31	W. H. Moore	574						181.00						
Feb.	28	Sullivan and Bro	604					9.60							
	28	Thos. G. Hood	609			77.14									
	28	Henry C. Harper	612			124.09									
	28	Augustus Thomas	614			476.76									
	28	Blum Bros	630					6.66							
	28	B. Rich & Sons	639	36.81		35.62	36.00	150.87							
	28	The National Democrat	662						12.90						
	28	S. Bieber	663		1,640.00										
	28	Geo. W. Knox Express	664								10.00				
	28	Adams Express Co	665								.60				
Mar.	31	Washington City post-office	704							54.00					
	31	Thos. G. Hood	709			127.90									
	31	Jordan, Marsh & Co	712			25.13									
	31	Henry C. Harper	718		250.04										
	31	J. B. Chamberlain	720											$102.79	
	31	Blum Bros	727			7.00									
	31	Guy, Curran & Co	730					84.78							
	31	B. Rich & Sons	732	5.25											
	31	J. H. Mills & Co	740							2.80					
	31	Chas. Baum	743					1.28							
	31	Fred. A. Schmidt	746						4.10						
	31	Wyckoff, Seamans & Benedict	753							2.00					
	31	Jos. Auerbach	755					15.00							
	31	Wm. Hahn & Co	760	259.40											
	31	W. H. Lowdermilk & Co	764						89.45						
	31	A. Lisner	769					5.36							
	31	S. Bieber	791		1,462.50										
	31	Geo. W. Knox Express	792								15.10				
	31	Adams Express Co	793								1.90				
	31	Baltimore & Potomac R. R. Co	794								.62				
	31	People's Dispatch and Transfer Co	811								5.00				
Apr.	28	Wm. F. Porter	826						6.00						
	29	S. Bieber	838		1,480.00										
	29	Thos. G. Hood	839			543.79									
	29	Sullivan & Bro	842					24.36							
	29	A. L. Williston	846							120.00					
	29	W. H. Thomas & Co	847			291.00									
	29	Baltimore and Potomac R. R. Co	850								13.50				
	29	Adams Express Co	851								.80				
	29	Geo. W. Knox Express	852								22.79				
	29	Blum Bros	855			214.90									
	29	Saks & Bro	856		522.00										
	29	Jos. Auerbach	860		15.00										
	29	Wm. D. Clarke & Co	870					57.40							
	29	Wm. Hahn & Co	874	337.50											
	29	Lansburgh & Bro	881			114.02									

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

DRY GOODS AND CLOTHING, BOOKS, STATIONERY, AND MISCELLANEOUS—Continued.

Date.	Furnished by—	Voucher No.	Boots, shoes, and slippers.	New clothing.	Clothing material.	Hats.	Notions.	Books and periodicals.	Stationery and postage.	Freight and hauling.	Incidental work, etc.	Advertising.	Electrical instruments.	Photographic instruments, etc.	Grand total.
1892.															
Apr. 29	B. Rich & Sons	882	$110.81												
29	W. L. King	884					$4.25								
29	United States Express Co	889								$34.25					
29	E. Morrison Paper Co	901							$179.67						
29	The National Democrat	909						$6.21							
29	J. N. Burket & Co	913											$0.50		
29	Edward F. Droop	914									$10.50				
29	John F. Ellis & Co	915									14.77				
May 17	R. C. Jones	944						6.00							
31	E. S. Miller	951						18.00							
31	The Department of the Interior	953							54.82						
31	Chicago Herald Co	961										$19.50			
31	Philadelphia Times	962										14.40			
31	N. Y. Daily Bulletin	963										14.40			
31	A. S. Abell Co	964										8.12			
31	Jas. O. Marceron	966	3.75												
31	Henry C. Harper	972					9.36								
31	The Washington Post Co	981						12.00							
31	J. B. Chamberlain	983												$43.71	
31	S. Bieber	985		$20.00											
31	Wm. Hahn & Co	988	183.06												
31	Robert Cohen	990	3.25												
31	Jas. J. Chapman	991						9.25							
31	Chesapeake and Potomac Telephone Co	997											224.45		
31	Guy, Curran & Co	1009					25.05								
31	Fred. A. Schmidt	1014							7.20						
31	Evening News	1024										5.60			
31	Geo. W. Knox Express	1028								16.35					
31	United States Express Co	1029								30					
31	Adams Express Co	1030								.75					
31	B. Rich & Sons	1032	343.50		$59.60										
June 28	H. J. Fegan	1075									25.00				
30	Geo. W. Corson	1082									20.00				
30	The Washington City post-office	1083							58.00						
30	The Natural Science Association of America	1094						22.50							
30	S. Bieber	1105		2,375.00											
30	Thos. G. Hood	1107			785.04										

30	Wm. D. Clark & Co	1112					38.54							
30	J. H. Mills & Co	1114							1.00					
30	The Washington Post Co	1118										10.88		
30	Wm. Hahn & Co	1127	682.86											
30	J. B. Chamberlin	1130											29.55	
30	Robert Cohen	1135	3.75											
30	Blum Bros	1141			10.25	$91.20	4.85							
30	Henry C. Harper	1153		71.44	501.65		24.47							
30	W. L. King	1157	4.93											
30	Lansburgh & Bro	1158			6.17		31.80							
30	B. Rich & Sons	1161	209.73											
30	E. Morrison Paper Co	1163							56.35					
30	The Washington Post Co	1176						96.30						
30	Wm. Ballantyne & Sons	1208						100.10						
30	Augustus Thomas & Co	1210		1,280.00										
30	Evening Star Newspaper Co	1211										6.98		
30	August Iker	1213									15.00			
30	New York World	1214										19.50		
30	Baltimore and Potomac R. R. Co	1215								.52				
30	People's Dispatch Co	1216								.75				
30	Springman's Express	1217								1.50				
30	U. S. Express Co	1218								.60				
30	Geo. W. Knox	1219								33.52				
	Total		4,189.10	16,928.04	7,486.19	310.10	1,445.37	745.10	757.11	622.00	199.43	99.38	224.95	240.25	$33,247.02

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

MEDICAL SUPPLIES, EXPENDED FOR AMUSEMENT OF PATIENTS, ETC.

Date.	Furnished by—	Voucher No.	Drugs, medicines, etc.	Alcoholic stimulants.	Instruments, etc.	Returning eloped patients.	Amusement of patients.	Sending to their homes.	Refunded board money.	Pathological supplies.	Grand total.
1892.											
July 18	Chas. Howard	3				$5.00					
22	Wm. Taylor	7				5.00					
30	W. M. White	12				5.00					
30	Boykin, Seddon & Co	17					$376.81				
16	J. C. Simpson	63						$21.25			
Aug. 11	Walter McKenzie	66				5.00					
26	Harry Lugenbeil	72				5.00					
31	C. W. Harer	83					126.00				
31	John F. Ellis & Co	96					450.00				
4	Mrs. E. L. Parmelee	120						7.80			
16	John Smith	121						20.00			
Sept. 5	J. W. Simpson	124				5.00					
8	John H. Roach	125				5.00					
29	John F. Roland	138				5.00					
30	A. C. Patterson, chief clerk	146					34.75				
30	Boykin, Seddon & Co	153					249.66				
30	Seabury & Johnson	156	$27.60								
30	Aquila Rich	170	129.08								
30	W. S. Thompson	177	1.00								
30	Luchs & Bro	193					162.24				
Oct. 31	Moses Childs	246				5.00					
31	M. E. Shipley	249							$41.42		
31	Scheller & Stevens	278	35.01								
31	S. F. Ware	279	55.53								
31	Jas. L. Barbour & Son	286		$624.76							
31	R. C. Puggsley	308					15.00				
31	John Roland	310				5.00					
31	A. C. Cazenove	335							28.86		
Nov. 30	E. F. Houghton & Co	363	28.37								
14	Alden Bradford	385						5.00			
2	Jas. Grimes	388				5.00					
Dec. 24	W. E. Brown	394				3.70					
31	J. C. Simpson	417					6.00				
31	Wm. F. Taylor	421				5.00					
31	Carl Fischer	424					10.80				
31	A. C. Patterson, chief clerk	430					41.50				
31	Boykin, Seddon & Co	432					664.69				
31	Smith, Kline & French Co	435	357.61								
31	Z. D. Gilman	444	162.71								

31	G. G. Cornwell & Son	446		52.50							
31	Jas. L. Barbour & Son	455		8.53							
31	Tschiffely & Evans	473	5.50								
31	Chas. W. Duhurst	496						20.00			
1893											
Jan. 17	L. Miller	501				5.00					
31	Humphrey's Homeopathic Medicine Co	515	33.00								
31	E. Shoemaker	519					400				
31	Winkelman & Brown Drug Co	521	152.01								
31	Chas. Fischer	523			$11.15						
31	E. J. Lewis	531	2.25								
31	Geo. Tiernan & Co	535			26.07						
31	W. C. Downey & Co	542	1.03								
31	Parke, Davis & Co	547	143.54								
31	Scheller & Stevens	559	169.58								
31	American Star Capsule Works	590	6.00								
Feb. 28	Robacher's Disinfectant Co	603	30.50								
28	Smith, Kline & French Co	605	23.20								
28	Winkelman & Brown Drug Co	606	32.92								
28	Boykin, Seddon & Co	610				30.527					
28	Seabury & Johnson	616	39.85								
28	Whitall, Tatum & Co	619								$249.08	
28	The Lynch Manufacturing Co	623			69.00						
28	Daniel Loughran	628					157.54				
28	S. F. Ware	633	82.50								
28	W. M. Galt & Co	642	3.50								
28	Parke, Davis & Co	647	96.78								
3	J. C. Simpson	681						19.00			
Mar. 16	Robert H. Owens	687				5.00					
31	Jos. A. Barker	700				5.00					
31	Smith, Kline and French Co	714	75.70								
31	Winkelman & Brown Drug Co	715	40.77								
31	Scheller & Stevens	723	33.62								
31	Mackall Bros. & Flemer	759	10.73								
31	A. C. Patterson, chief clerk	768					47.90				
31	Z. D. Gilman	781	80.41		12.62						
18	William Reed	810						5.00			
Apr. 20	James Kerr, M. D	819	10.00								
21	Jos. A. Barker	820				5.00					
26	John Roland	824				5.00					
29	H. Hoffer	836			29.00						
29	Boykin, Seddon & Co	840					384.16				
29	Seabury & Johnson	848			9.00						
29	Luchs & Bro	858					52.00				
29	Tschiffely & Evans	864	9.00								
29	Mackall Bros. & Flemer	875	7.40								
29	Chas. Fischer	891			5.50						
29	W. M. Galt & Co	893	7.00								
29	Z. D. Gilman	895	56.51								
29	Scheller & Stevens	896	76.75								
29	Daniel Loughran	898					5.30				
29	Melville Lindsay	906			2.30						

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

MEDICAL SUPPLIES, EXPENDED FOR AMUSEMENT OF PATIENTS, ETC.—Continued.

Date.	Furnished by—	Voucher No.	Drugs, medicines, etc.	Alcoholic stimulants.	Instruments, etc.	Returning eloped patients.	Amusement of patients.	Sending to their homes.	Refunded board money.	Pathological supplies.	Grand total.
1893.											
Apr. 25	John T. Carey	936						$14.25			
29	J. C. Simpson	937						52.15			
21	Jos. A. Barker	820				$5.00					
26	John Roland	824				5.00					
29	H. Hoffa	836			$29.00						
29	Boykin, Seddon & Co	840					$384.16				
29	Seabury & Johnson	848			9.00						
29	Luchs & Bro	858					52.00				
29	Tschiffely & Evans	864	$9.00								
29	Mackall Bros. & Flemer	875	7.40								
29	Chas. Fischer	891			5.50						
29	W. M. Galt & Co	893	7.00								
29	Z. D. Gilman	895	56.51								
29	Scheller & Stevens	896	76.75								
29	Daniel Loughran	898					5.30				
29	Melville Lindsay	906			2.30						
25	John T. Carey	936						14.25			
29	J. C. Simpson	937						52.15			
May 11	Wm. Kennedy	942				5.00					
27	Maria Wormley	949				5.00					
31	J. G. Taylor	954					254.90				
31	Winkelman & Brown Drug Co	971	5.85								
31	Luchs & Bro	987					52.00				
31	Jas. L. Barbour & Son	1004		$9.75							
31	E. J. Lewis	1013			3.50						
31	S. F. Ware	1020	22.44								
31	Daniel Loughran	1022					27.50				
31	J. L. Barnes	1051						3.00			
June 5	F. H. Smith	1055				5.00					
6	C. E. Barton	1056				5,00					
8	Sam'l Jones	1057				5.00					
17	John Tilghman	1064				5.00					
26	Baylor Tallent	1072				5.00					
30	Boykin, Seddon & Co	1109					312.10				
30	A. C. Patterson, chief clerk	1115					60.75				
30	Smith, Kline & French Co	1116	15.50								
30	E. F. Houghton & Co	1120	19.00								
30	Humphrey's Homeopathic Medical Co	1121	22.50								
30	E. A. Hannum	1124	7.50								

30	Jas. L. Barbour & Son	1126	.....	280.99	.....	.....	.....	.....	.....	.....	.....
30	Luchs & Bro	1134	.....	.....	.....	.....	74.88	.....	.....	.....	.....
30	Chas. Fischer	1138	.....	.....	20.40	.....	.....	.....	.....	.....	.....
30	Z. D. Gilman	1139	65.26	.....	.....	.....	.....	.....	.....	.....	.....
30	Scheller & Stevens	1147	86.51	.....	.....	.....	.....	.....	.....	.....	.....
30	Mackall Bros. & Flemer	1148	1.05	.....	.....	.....	.....	.....	.....	.....	.....
30	G. G. Cornwell & Son	1170	2.00	31.05	.....	.....	.....	.....	.....	.....	.....
30	S. F. Ware	1179	4.00	.....	.....	.....	.....	.....	.....	.....	.....
30	Aquila Rich	1203	10.39	.....	.....	.....	.....	.....	.....	.....	.....
	Total	.....	2,288.96	1,007.58	188.54	123.70	3,875.75	167.45	$70.28	$249.08	$7,971.34

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

FARM, GARDEN, AND STABLE.

Date.	Furnished by—	Voucher No.	Feed.	Implements, horseshoes, etc.	Plants and seeds.	Manures.	Live stock.	Harness and repairs.	Vehicles and repairs.	Hay and straw.	Incidental expenses.	Grand total.
1892.												
July 29	W. M. Dodge	11									$2.70	
30	C. B. Rogers & Co	20		$1.68								
30	Jas. A. Beall	21							$14.00			
30	W. M. Galt & Co	30	$443.50									
30	Jas. L. Barbour & Son	41	268.00									
Aug. 30	Jas. A. Beall	76							109.00			
31	E. E. Berry	87									16.00	
Sept. 30	N. Gray	147									24.00	
30	Jas. A. Beall	148							59.50			
30	J. B. Baker & Son	178							2.00			
30	W. M. Galt & Co	199	494.50									
Oct. 29	J. E. Lyon	240	10.00	11.50		$1.50						
31	Patrick Rouan	245									5.00	
31	S. S. Daish & Sons	247	453.15							$861.09		
31	I. C. Slater	252					$175.00					
31	Andrew J. Joyce's Sons	257							130.00			
31	D. Murphy	258				125.00						
31	W. A. Pate	285		189.41								
31	Jas. L. Barbour & Son	286	938.00									
Nov. 23	Jas. A. Beall	320							29.50			
30	Patrick Rouan	333									5.00	
30	E. H. Jones	338			$38.00							
30	T. B. Middleton	343									61.96	
30	Geo. F. Pyles	345									156.40	
30	Benjamin Joy	352									237.13	
30	John Smith	353									74.50	
Dec. 21	M. Shea & Bro	404					85.00					
21	W. F. Bender	405					105.00					
21	C. A. J. Williamson	408									5.30	
22	Geo. G. Curtis	410									15.00	
22	John A. Owens	411									70.00	
23	Jas. A. Beall	414							133.00			
31	Patrick Rouan	420									5.00	
31	John M. Seltzer	425					35.00					
31	S. S. Daish & Son	431	714.56							763.00		
31	W. M. Galt & Co	445	1,497.00									
31	Jas. L. Barbour & Son	455	737.00									
31	W. F. Bender	460					70.00					
31	J. H. Mitchell	479		20.75								

1893.												
Jan. 30	W. F. Bender	505					42.50					
31	Patrick Rouan	509									8.00	
31	Alexander M. Tulford	514					50.00					
31	The American Well Works	520									5.14	
31	Rudoplh Thiele	529					215.00					
31	Jacob Windsor	543								17,37		
31	W. E. Clark & Co	546		325,31	108.90	37.18						
31	S. S. Daish & Son	562	134,78							73.20		
31	Jas. L. Barbour & Son	566	243.00									
Feb. 28	Patrick Rouan	596									8.00	
28	W. A. Pate	602		159.66								
28	W. H. Butler	625						$6.50				
28	Lutz & Bro	635						128.75				
28	J. B. Kendall	638		92.35								
28	W. M. Galt & Co	642	428,00									
28	W. L. King	643						61.27				
28	Peter Henderson & Co	649			25.29							
28	James L. Barbour & Son	656	301.50									
Mar. 28	James A. Beall	693							21.00			
31	Paul Hiser, jr., & Co	719			12.00							
31	W. H. Butler	724						2.50				
31	Lutz & Bro	730							1.75			
31	Barbour & Ross	767		28.80								
31	W. M. Galt & Co	770	455.70									
31	Thomas W. Riley	773				441.35						
31	W. E. Clark & Co	776		40.17	274.43							
31	James L. Barbour & Son	777	335.00									
31	J. W. Bartley	782			263.85							
31	John M. Dermott & Bro	789							253.25			
31	S. S. Daish & Son	790	399.84							290.64		
Apr. 8	James L. Green	814									7.25	
18	W. E. Hadley	818						12.00				
25	Peter Paul	823					400.00					
29	Patrick Rouan	829									8.00	
29	John Boston	830					88.00					
29	H. Clay Jones	832				211.00						
29	John Simmons	833					200.00					
29	P. H. Heiskell, jr., & Co	877			176.67							
29	Lutz & Bro	879						55.50				
29	W. M. Galt & Co	893	521.05									
29	Jas. A. Beall	902							63.50			
29	S. S. Daish & Son	905	211.38							401.64		
29	W. A. Pate	917		90.69								
29	Hoopes Bros. & Thomas	938			22.50							
May 31	Patrick Rouan	952									8.00	
31	C. W. Pyles	955					36.00					
31	H. Sweeney	956			4.50							
31	Jas. A. Beall	974							48.00			
31	A. Edmonds	977									43.13	
31	Jas. L. Barbour & Son	1004	481.73									
31	W. M. Galt & Co	1010	644.22									

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

FARM, GARDEN, AND STABLE—Continued.

Date.	Furnished by—	Voucher No.	Feed.	Implements, horseshoes, etc.	Plants and seeds.	Manures.	Live stock.	Harness and repairs.	Vehicles and repairs.	Hay and straw.	Incidental expenses.	Grand total.
1893.												
May 31	W. H. Butler	1012						$2.50				
31	Peter Henderson & Co	1054			$14.25							
June 29	A. Edmonds	1076									$29.75	
30	Patrick Rouan	1078									8.00	
30	W. M. Dodge	1081									11.75	
30	N. R. Harnish	1084					$85.06					
30	L. W. Hickman	1085					700.00					
30	M. Shea & Bro	1092					190.00					
30	C. W. Pyles	1093					175.00					
30	Jas. A. Beall	1098							$158.50			
30	Thos. W. Smith	1102		$20.00								
30	Jas. L. Barbour & Son	1126	$435.50									
30	W. A. Pate	1132		80.02								
30	S. S. Daish & Son	1152	459.54							$139.75		
30	W. M. Galt & Co	1154	549.60			$75.00				137.12		
30	Lutz & Bro	1169						205.85				
30	Union Transfer Co	1178				100.00						
30	J. B. Kendall	1180							35.14			
30	W. E. Clark & Co	1182		563.53	105.86	10.86						
30	J. H. Mitchell	1201									11.00	
30	John McDermott	1206							34.00			
30	P. Mann & Co	1207				211.99						
30	S. S. Daish & Son	1212	27.79									
	Total		11,184.44	1,629.87	1,046.25	1,213.88	2,651.50	474.87	1,092.14	2,684.31	826.01	$22,803.27

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

REPAIRS AND IMPROVEMENTS.

Date.	Furnished by—	Voucher No.	Lumber, doors, etc.	Hardware, etc.	Engineers' and plumbers supplies.	Paints, oils, glass, etc.	Roofing.	Iron work, etc.	Plastering, etc.	Sundry small repairs, etc.	Fire and other apparatus.	Masons' supplies.	Grand total.
1892.													
July 30	Church & Stephenson	42	$18.00										
30	Richard H. Willet	1	342.61										
30	J. H. Chesley & Co	3						$55.48					
30	A. R. Williams	4							$42.00				
30	S. M. Frazier	5							20.40				
30	Church & Stephenson	6	73.93										
30	Dufur & Co	316								$54.00			
30	Church & Stephenson	317	130.00										
30	Richard H. Willet	318	186.00										
30	A. R. Williams	319										$87.00	
Aug. 31	Robert Leitch & Sons	89			$499.87								
31	Geo. Ryneal, jr	91				$46.13							
31	Pettit & Dripps	92						8.59					
31	Robert Leitch & Sons	320			2,118.77								
31	Potomac Stone Co	9										364.69	
31	John R. Evans	11										96.05	
31	Robert Leitch & Sons	12			676.09								
31	S. M. Frazier	13										74,80	
31	A. R. Williams	14										92.75	
31	Pettit & Dripps	15						96.77					
31	W. E. Dante	16								16.00			
Sept. 30	Ingalls & Kendricken	157			855.00								
30	E. J. Brooks & Co	162		$139.50									
30	Chas. M. Childs & Co	164				19.44							
30	Lubroleine Oil Co	166				62.04							
30	Aquila Rich	170				327.69							
30	E. G. Schafer & Co	176			1.20								
30	Robert Boyd	185								18.34			
30	Robert J. McLean	194	81.73										
30	Hugh Reilly	198				16.10							
30	The Philip Carey Manufacturing Co	202			879.32								
30	Jas. H. McGill	204							2.25				
30	The Clark Manufacturing Co	322		210.65									
30	Chas. Ford	324										804.75	
30	John R. Evans	325										49.50	
30	R. L. Jones & Co	326					$330.00						
30	S. M. Frazier	327							88.40				
30	Richard H. Willet	18	316.64										
30	A. Lambla	19										190.00	

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

REPAIRS AND IMPROVEMENTS—Continued.

Date.	Furnished by—	Voucher No.	Lumber, doors, etc.	Hardware, etc.	Engineers and plumbers' supplies.	Paints, oils, glass, etc.	Roofing.	Iron work, etc.	Plastering, etc.	Sundry small repairs, etc.	Fire and other apparatus.	Masons' supplies.	Grand total.
1892.													
Sept. 30	W. W. Tupper & Co	20								$460.80			
30	A. R. Williams	21										$96.00	
30	Robert Leitch & Sons	22			$479.43								
30	Potomac Stone Co	23										307.02	
30	The Manhattan Supply Co	259				$479.99							
Oct. 31	Robert Leitch & Sons	266			110.75								
31	Church & Stephenson	284	$51.45										
31	Jouvenal & Smith	25										157.62	
31	Chas. White & Co	26						$796.94					
31	W. E. Dante	27								17.00			
31	Robert Leitch & Sons	28			350.94								
31	Church & Stephenson	29	246.84										
31	Chas. Ford	30										1,473.21	
31	John R. Evans	32										63.75	
31	Jouvenal & Smith	330										84.35	
31	A. R. Williams	331										156.00	
31	Jouvenal & Smith	333										17.00	
Nov. 30	E. H. Webb	329		$7.00									
30	Richard H. Willet	337	461.81										
30	Chas. T. Carter & Co	344		77.65									
30	....do	35		237.23									
30	John R. Evans	334										20.25	
30	S. M. Frazier	335										68.00	
Dec. 21	J. Hillengass	409						34.56					
30	A. O. Brummel	416				161.91							
31	M. Roche	423										166.70	
31	Thos. W. Smith	429	676.15										
31	L. A. Schneider's Son	437		617.91									
31	Robert Leitch & Sons	462			480.93								
31	Aquila Rich	463			504.58								
31	Morris, Tasker & Co	467			535.35								
31	Chas. Ford	337										155.16	
31	Thos. W. Smith	338	74.34										
31	John R. Evans	340							$20.25				
31	A. R. Williams	341							24.00				
31	Thos. W. Smith	342	29.31										
1893.													
Jan. 31	E. J. Brooks & Co	517			17.79								
31	Bramhall, Dean & Co	527						18.90					

	31	Ingalls & Kendricken	533									$385.00		
	31	Richard H. Willet	539	151.91										
Feb.	28	Chas. M. Childs & Co	613				21.37							
	28	Riverdale Chemical Co	615				5.40							
	28	Lubroleine Oil Co	617				80.03							
	28	Geo. Ryneal, jr	636				84.65							
	28	Robert Leitch & Sons	645			121.22								
	28	Pettit & Dripps	646					201.03						
	28	J. H. Chesley & Co	658		242.19									
	28	Wm. D. Gill & Son	39	123.30										
	28	George Smith	40					$83.95						
	28	Dufur & Co	41						66.73					
	28	A. R. Williams	42										12.00	
	28	Thos. Matthews & Son	344	217.73										
Mar.	29	Church & Stephenson	697	60.04										
	31	C. E. Bigelow	707								34.30			
	31	Aquila Rich	713				83.90							
	31	J. H. Chesley & Co	728		17.81									
	31	Francis Miller	737				2.25							
	31	E. G. Schafer	744			21.25								
	31	Church & Stephenson	747	48.09										
	31	Geo. Ryneal, jr	780				3.00							
	31	Hugh Reilly	785				132.79							
	31	L. H. Schneider's Son	786		257.26									
	31	J. T. Walker Sons	788								36.66			
	28	Wm. A. Johnson	43								5.00			
	29	Church & Stephenson	44	126.27										
	31	A. R. Williams	45							56.50				
	31	M. Roche	46								19.18			
	31	S. M. Frazier	47										20.40	
	31	J. H. Kuehling	48								143.25			
	31	Thos. Somerville & Sons	49			22.48								
	31	Chas. T. Carter & Co	50		37.85									
	31	D. L. Fennell	51								15.30			
pr.	29	The Manhattan Supply Co	843				157.36							
	29	Schaum and Uhlinger	845								3.00			
	29	Robert Leitch & Sons	849			77.09								
	29	Aquila Rich	853				168.46							
	29	Geo. Ryneal, jr	886				28.06							
	29	Robert Boyd	890					20.51						
	29	L. H. Schneider's Son	904		103.57									
	29	Melville Lindsay	906			9.54								
	29	E. G. Schafer & Co	912			13.73								
	29	Robert Leitch & Sons	53			122.08								
	29	Chas. T. Carter & Co	54		18.40			53.75						
	29	Richard H. Willet	346	310.85										
May	31	Chas. M. Childs & Co	968				11.91							
	31	Aquila Rich	970				181.01							
	31	Lubroleine Oil Co	973			32.83								
	31	Daniel Shanahan	977				15.50							
	31	J. T. Walker Sons	989								1.25			
	31	E. G. Wheeler	993		5.50									

Classified Expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

REPAIRS AND IMPROVEMENTS—Continued.

Date.	Furnished by—	Voucher No.	Lumber, doors, etc.	Hardware, etc.	Engineers and plumbers' supplies.	Paints, oils, glass, etc.	Roofing.	Iron work, etc.	Plastering, etc.	Sundry small repairs, etc.	Fire and other apparatus.	Masons' supplies.	Grand total.
1893.													
31	Church & Stephenson	994	$84.19										
31	Richard H. Willet	995	93.00										
31	E. G. Schafer & Co	1016			$30.60								
31	J. H. Chesley & Co	1023		$7.97									
31	The Clark Manufacturing Co	1034		18.25									
31	Robert Leitch & Sons	55			102.72								
31	Chas. Ford	56										$148.00	
31	Thos. Matthews & Son	57	210.33										
31	S. M. Frazier	58							$17.00				
31	Potomac Stone Co	348										245.73	
31	Church & Stephenson	349	152.00										
31	Geo. Ryneal, jr	1052				$40.80							
June 30	Henry McShane Manufacturing Co	1103								$2.50			
30	Lubroleine Oil Co	1123			24.30								
30	L. H. Schneider's Son	1143		156.83									
30	Geo. Ryneal, jr	1159				10.70							
30	Melville Lindsay	1162			60.55								
30	Hugh Reilly	1174				27.14							
30	Robert Leitch & Sons	1181			636.84								
30	Pettit & Dripps	59						$34.32					
30	Richard H. Willet	60	42.36										
30	Otis Bros. & Co	61								22.00			
30	John R. Evans	351										40.50	
30	Thos. W. Smith	352	106.41										
30	S. M. Frazier	353							13.60				
30	A. R. Williams	354										12.00	
30	W. E. Clark & Co	355								165.78			
30	Aquila Rich	1203				97.89							
30	Chas. T. Carter & Co	1204		32.40									
30	Wm. B. Morgan	1205								385.00			
30	Chas. T. Carter & Co	62		50.23									
30	Jouvenal & Smith	63										46.73	
30	Lewis Hopfenmaier	64						2.17					
	Total		4,445.20	2,238.20	8,785.25	2,033.52	$488.21	1,315.49	284.40	1,399.36	$385.00	5,039.96	$$26,414.59

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

SALARIES AND WAGES.

Date.	Furnished by—	Voucher No.	Superintendent, physicians, and general office.	Ward service.	Inside domestic department.	Engineer's department.	Farm and garden, hauling coal, drivers, etc.	Mechanics and helpers.	Making clothing.	Laundry.	Sunday service.	Grand total.
1892.												
July 12	Kate Goodwin	2							$11.79			
19	Mary Norfolk	4							13.50			
21	A. Wathen	6							9.00			
23	Jane Beavan	8							9.00			
28	C. M. Barnes	10							21.11			
30	Pay-roll, support	48	$2,410.61									
30	....do	49		$1,176.84								
30	....do	50		1,050.87								
30	....do	51		835.51								
30	....do	52		438.87								
30	....do	53		864.95								
30	....do	54		345.74								
30	....do	55			$1,075.28							
30	....do	56			549.92							
30	....do	57								$544.41		
30	....do	58					$1,236.33					
30	....do	59					170.86					
30	....do	60				$780.02		$978.60				
30	....do	61					1,076.96					
30	....do	62					134.18					
30	Pay roll, repairs and improvements	30						1,595.08				
Aug. 6	H. M. McAndrews	65							11.52			
13	Jane Beavan	67							9.00			
19	C. E. Gardner	68							9.00			
20	Catharine M. Barnes	69							9.00			
23	Rachel E. Payne	70							9.00			
26	M. A. Thompson	71							9.00			
27	Lillie Owens	73							8.50			
27	Annie M. Baldwin	74							8.50			
31	Mary Norfolk	77							10.50			
31	Kate Goodwin	78							8.50			
31	Annie R. Anderson	79							17.00			
31	Ellen Bowling	80							18.00			
31	Pay roll, support	104	2,452.80									
31	....do	105		1,169.76								
31	.... do	106		996.44								
31	....do	107		849.90								
31	....do	108		497.64								

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

SALARIES AND WAGES—Continued.

Date.	Furnished by—	Voucher No.	Superintendent, physicans, and general office.	Ward service.	Inside domestic department.	Engineer's department.	Farm and garden, hauling coal, drivers, etc.	Mechanics and helpers.	Making clothing.	Laundry.	Sunday service.	Grand total.
1892.												
Aug. 31	Pay-roll, support	109		$808.79								
31	....do	110		331.48								
31	....do	111			$1,063.17							
31	....do	112			537.08							
31	....do	113			96.00							
31	....do	114								$520.23		
31	....do	115					$1,236.33					
31	....do	116					277.66					
31	....do	117				$800.83		$966.95				
31	....do	118					1,144.77					
31	....do	119					162.20					
31	Pay roll, buildings and grounds	321						787.48				
31	Pay roll, repairs and improvements	17						1,639.70				
Sept. 12	R. Laurie	128							$8.50			
12	Gennie Biggs	129							8.50			
16	Emma Green	130							8.50			
16	C. E. Gardner	131							13.50			
16	Annie Hannan	132							9.00			
24	M. A. Thompson	134							18.00			
26	Rachel E. Payne	135							9.00			
29	A. Wathen	136							18.00			
29	Jane Beavan	137							27.00			
29	Kate Goodwin	139							8.50			
30	C. M. Barnes	140							17.50			
30	Elizabeth Bladen	141							26.00			
30	H. M. McAndrews	142							9.60			
30	Annie M. Baldwen	143							25.50			
30	Lillie Owens	169							17.00			
30	Pay roll, support	209	$2,470.90									
30	....do	210		1,172.50								
30	....do	211		1,044.17								
30	....do	212		846.92								
30	....do	213		574.53								
30	....do	214		828.50								
30	....do	215		311.73								
30	....do	216			1,051.26							
30	....do	217			504.50							
30	....do	218			146.93							

30	.....do	219								524.20		
30	.....do	220					1,236.34					
30	.....do	221					316.99					
30	.....do	222				773.34		1,044.72				
30	.....do	223					948.20					
30	.....do	224					126.73					
30	Pay roll, buildings and grounds	323						769.69				
30	.....do	329						444.90				
30	Pay roll, repairs and improvements	24						1,198.50				
Oct. 17	M. A. Crown	228							13.50			
20	Rachel E. Payne	231							6.75			
22	M. A. Thompson	232							9.00			
26	C. M. Barnes	235							13.50			
26	A. Wathen	236							22.50			
26	Ellen Bowling	237							26.50			
27	R. Laurie	238							13.50			
29	Annie M. Baldwin	239							17.50			
31	Mary Norfolk	241							17.85			
31	C. E. Gardner	242							9.00			
31	Gennie Biggs	243							8.50			
31	Kate Goodwin	244							14.62			
31	H. M. McAndrews	248							11.52			
31	Etta Harrison	250							14.10			
31	Kate Downs	260							8.50			
31	Lillie Owens	262							19.50			
31	Annie R. Anderson	263							13.50			
31	Jane Beavan	264							20.77			
31	Pay roll, support	289	2,476.14									
31	.....do	290		1,153.31								
31	.....do	291		1,060.00								
31	.....do	292		850.62								
31	.....do	293		579.17								
31	.....do	294		827.34								
31	.....do	295		329.92								
31	.....do	296			1,077.16							
31	.....do	297			545.45							
31	.....do	298			101.78							
31	.....do	299								533.16		
31	.....do	300					1,229.31					
31	.....do	301					379.40					
31	.....do	302				810.83		1,039.50				
31	.....do	303					1,131.86					
31	.....do	304					68.40					
31	Pay roll, repairs and improvements	31						1,163.32				
31	.....do	33						586.69				
31	Pay roll, buildings and grounds	332						924.90				
Nov. 4	Mary J. Nokes	307							13.50			
7	Lizzie Langley	309							8.50			
12	Annie Hannan	311							13.50			
16	Elizabeth Bladen	312							13.50			
17	A. Wathen	313							12.00			
17	C. M. Barnes	314							12.00			

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

SALARIES AND WAGES—Continued.

Date.	Furnished by—	Voucher No.	Superintendent, physicians, and general office.	Ward service.	Inside domestic department.	Engineer's department.	Farm and garden, hauling coal, drivers, etc.	Mechanics and helpers.	Making clothing.	Laundry.	Sunday service.	Grand total.
1892.												
Nov. 17	Mary Norfolk	315							$4.50			
22	Ellen Bowling	318							12.38			
22	M. A. Thompson	319							8.50			
23	H. D. Word	321							8.50			
23	L. A. McKenney	322							8.50			
25	Rachel E. Payne	323							8.50			
26	C. E. Gardner	324							8.16			
26	Emma Green	325							8.50			
30	R. M. Wood	331							8.50			
30	Jane Beavan	332							8.50			
30	Annie M. Baldwin	334							17.00			
30	Pay roll support	368	$1,853.64	$649.17								
30	....do	369		1,177.50								
30	....do	370		1,048.33								
30	....do	371		843.84								
30	....do	372		575.02								
30	....do	373		852.50								
30	....do	374		316.00								
30	....do	375			$1,079.16							
30	....do	376			533.43							
30	....do	377			87.13							
30	....do	378								$522.60		
30	....do	379					$1,275.03					
30	....do	380					508.34					
30	....do	381				$795.50		$982.61				
30	....do	382					1.155.80					
30	....do	383					214.86					
30	Pay roll, repairs and improvements	36						460.69				
30	Pay roll, buildings and grounds	336						858.01				
Dec. 7	A. Wathen	389							12.00			
12	R. Laurie	390							17.00			
14	Kate Goodwin	392							9.00			
14	Kate Downs	393							8.50			
14	Annie R. Anderson	395							8.50			
15	Lizzie Langley	396							8.50			
16	O. A. Moore	397							14.70			
16	A. Pumphrey	398							17.50			
17	Emma Green	399							13.50			

19	Lillie Owens	400							8.50			
19	Elizabeth Grimes	401							9.00			
19	C. M. Barnes	402							8.50			
20	Rachel E. Payne	403							15.00			
21	Elizabeth Bladen	406							8.50			
21	L. A. McKenney	407							8.50			
23	M. A. Thompson	412							10.88			
23	Sarah J. Poates	413							9.00			
31	Ellen Bowling	418							8.50			
31	H. M. McAndrews	419							9.60			
31	Pay roll, support	480	1,861.72	602.50								
31	....do	481		1,177.50								
31	....do	482		1,050.00								
31	....do	483		856.87								
31	....do	484		677.16								
31	....do	485		842.82								
31	....do	486		326.00								
31	....do	487			1,069.50							
31	....do	588			533.68							
31	....do	489			103.29							
31	....do	490								524.03		
31	....do	491					1,266.98					
31	....do	492					585.89					
31	....do	493				843.74		786.97				
31	....do	494					1,028.40					
31	....do	495					88.44					
31	Pay roll, repairs and improvements	38						154.68				
31	Pay roll, buildings and grounds	339						456.75				
1893.												
Jan. 7	Jane Beavan	497							9.00			
7	A. Wathen	498							6.00			
12	Mary Norfolk	499							12.00			
20	C. E. Gardner	502							13.50			
30	Annie Hannan	504							8.50			
31	Rachel E. Payne	508							9.00			
31	Pay roll, support	575	1,656.46	677.50								
31	....do	576		1,163.39								
31	....do	577		1,118.39								
31	....do	578		894.00								
31	....do	579		716.45								
31	....do	580		875.00								
31	....do	581		346.84								
31	....do	582			1,068.66							
31	....do	583			582.50							
31	....do	584			98.19							
31	....do	585								525.26		
31	....do	586					1,226.33					
31	....do	587					415.83					
31	....do	588				893.33		838.83				
31	....do	589					835.76					
31	Pay roll, buildings and grounds	343						283.50				
Feb. 16	Jane Beavan	591							10.60			

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

SALARIES AND WAGES—Continued.

Date.	Furnished by—	Voucher No.	Superintendent, physicians, and general office.	Ward service.	Inside domestic department.	Engineers' department.	Farm and garden, hauling coal, drivers, etc.	Mechanics and helpers.	Making clothing.	Laundry.	Sunday service.	Grand total.
1893												
Feb. 21	Emma Green	592							$8.50			
28	Ellen Bowling	595							18.00			
28	B. H. Remsen	597							24.19			
28	C. E. Gardner	657							8.50			
Jan. 31	Pay roll, support	580		$875.00								
31	....do	581		346.84								
31	....do	582			$1,068.66							
31	....do	583			582.50							
31	....do	584			98.19							
31	....do	585								$525.26		
31	....do	586					$1,226.33					
31	....do	587					415.83					
31	....do	588				$893.33		$838.83				
31	....do	589					835.76					
31	Pay roll, buildings and grounds	343						283.50				
Feb. 16	Jane Beavan	591							10.60			
21	Emma Green	592							8.50			
28	Ella Bowling	595							18.00			
28	B. H. Remsen	597							24.19			
28	C. E. Gardner	657							8.50			
28	Pay roll, support	666	$1,642.58	719.71								
28	....do	667		1,125.18								
28	....do	668		1,085.35								
28	....do	669		856.71								
28	....do	670		737.79								
28	....do	671		865.00								
28	....do	672		355.71								
28	....do	673			1,055.27							
28	....do	674			582.50							
28	....do	675			92.00							
28	....do	676								513.00		
28	....do	677					1,226.33					
28	....do	678					285.90					
28	....do	679				893.33		893.43				
28	....do	680					783.24					
28	Pay-roll, buildings and grounds	345						213.00				
Mar. 6	Kate Downs	683							8.50			
9	Rachel E. Payne	684							8.50			

	13	Annie Hannan	685							8.50		
	18	C. M. Barnes	688							9.85		
	22	A. Wathen	690							12.24		
	25	Emma Green	691							11.25		
	28	Ellen Bowling	692							4.72		
	29	H. M. McAndrews	695							11.52		
	31	Emma Wood	699							9.00		
	31	Jane Beavan	702							18.00		
	31	R. D. Goodman	772		2.90							
	31	Pay roll, support	795	1,754.21	707.50							
	31	....do	796		1,165.16							
	31	....do	797		1,074.54							
	31	....do	798		840.14							
	31	....do	799		721.27							
	31	....do	800		885.00							
	31	....do	801		360.00							
	31	....do	802			1,066.18						
	31	....do	803			546.32						
	31	....do	804			116.38						
	31	....do	805								515.39	
	31	....do	806					1,186.18				
	31	....do	807					373.23				
	31	....do	808				890.84		889.34			
	31	....do	809					1,027.92				
	31	Pay roll, repairs and improvements	52						253.00			
Apr.	6	C. E. Gardner	812							9.00		
	8	Ida E. Griffin	813							13.50		
	11	O. A. Moore	815							9.00		
	15	A. Iker	817							13.50		
	24	Jane Beavan	821							9.00		
	24	L. A. McKenney	822							8.50		
	28	M. McInturf	827							9.00		
	28	Kate Downs	828							19.20		
	28	Pay roll, support	920	1,802.81	682.50							
	28	....do	921		1,166.00							
	28	....do	922		1,100.50							
	28	....do	923		838.93							
	28	....do	924		734.77							
	28	....do	925		879.67							
	28	....do	926		348.00							
	28	....do	927			1,071.49						
	28	....do	928			588.83						
	28	....do	929			100.77						
	28	....do	930								544.00	
	28	....do	931					1,248.33				
	28	....do	932					306.36				
	29	....do	933				853.33		938.83			
	29	....do	934					212.55				
	29	....do	935					1,067.98				
	29	Pay roll, buildings and grounds	347						278.44			
May	4	C. M. Barnes	939							9.00		
	8	Rachel E. Payne	940							9.00		

Classified expenditures, Government Hospital for the Insane, for the fiscal year ending June 30, 1893—Continued.

SALARIES AND WAGES—Continued.

Date.	Furnished by—	Voucher No.	Superintendent, physicians, and general office.	Ward service.	Inside domestic department.	Engineers' department.	Farm and garden, hauling coal, drivers, etc.	Mechanics and helpers.	Making clothing.	Laundry.	Sunday service.	Grand total.
1893.												
May 10	C. P. Rowley	941							$13.50			
20	M. McInturf	945							8.50			
22	Kate Downs	946							8.50			
29	Jane Beavan	950							16.50			
31	Ellen Bowling	958							10.37			
31	Emma Green	959							8.59			
31	Pay roll, support	1035	$1,859.47	$622.50								
31	....do	1036		1,183.06								
31	....do	1037		1,099.35								
31	....do	1038		845.93								
31	....do	1039		663.71								
31	....do	1040		907.50								
31	....do	1041		328.00								
31	....do	1042			$1,061.16							
31	....do	1043			596.66							
31	....do	1044			110.97							
31	....do	1045								$516.58		
31	....do	1046					$1,253.33					
31	....do	1047					324.98					
31	....do	1048				$860.83		$887.00				
31	....do	1049					1,230.00					
31	....do	1050					293.70					
31	Pay roll, buildings and grounds	350						326.02				
June 9	Sarah M. Lanham	1058							11.25			
16	L. A. McKenney	1063							8.50			
22	Sarah J. Poates	1065							13.50			
23	C. P. Rowley	1066							8.50			
23	Ellen Bowling	1067							8.50			
24	Kate Goodwin	1070							10.00			
24	Kate Downs	1071							8.50			
26	Jane Beavan	1073							18.00			
28	Lizzie Langley	1074							9.50			
30	Catharine Krieg	1079							8.50			
30	Annie Hannan	1080							10.00			
30	Jacob D. Wilson	1087								100.00		
30	W. E. Parsons	1088								100.00		
30	A. Floridus Steele	1089								100.00		
30	John Chester	1090								100.00		

30	H. M. McAndrews	1091							5.76			
30	Thos. B. Hughes	1106								100.00		
30	Emma Green	1117							8.50			
30	Pay roll, support	1183	1,769.06	638.50								
30	....do	1184		1,185.00								
30	....do	1185		1,071.16								
30	....do	1186		818.00								
30	....do	1187		696.00								
30	....do	1188		90.00								
30	....do	1189		863.50								
30	....do	1190		301.20								
30	....do	1191			1,015.68							
30	....do	1192			582.00							
30	....do	1193			91.36							
30	....do	1194								561.67		
30	....do	1195					1,253.34					
30	....do	1196					413.79					
30	....do	1197				860.84		880.89				
30	....do	1198					1,201.40					
30	....do	1199					337.80					
30	Pay roll, buildings and grounds	356						285.19				
30	....do	357						38.50				
Mar. 31	Dennis Reagan	1200					43.55					
	Total	.....	24,010.40	64,298.02	20,581.64	10,056.76	33,548.07	23,845.71	1,590.24	6,344.53	$500.00	$184,775.37

Itemized receipts.

1892.		Cash received for—	
July	1.	Board of Mary E. Webster	$65.00
	1.	Board of Amon Woodward	25.00
	1.	Board of Emily B. Wadsworth	20.00
	2.	Board of Catharine N. Supplee	25.00
	2.	Board of Henry C. Dean	25.00
	2.	Board of Soldiers' Home patients	977.86
	2.	Board of J. A. Kellogg	32.50
	2.	Board of Robt. Benham	30.00
	2.	Board of E. A. Bradley	20.00
	4.	Board of Adolph Berger	65.00
	4.	Board of Geo. W. Webb	30.00
	5.	Special attendance of Edward Burchell	211.00
	6.	Board of John P. Walker	49.70
	7.	Board of James E. Wilson	91.00
	7.	Board of M. A. Gilleland	65.00
	7.	Board of Martha Herman	20.00
	9.	Special attendance of Rollin Perkins	75.00
	9.	Board of John G. Hildt	65.00
	9.	Board of W. H. Rose	65.00
	12.	Board of Francis M. Cooke	65.00
	12.	Board of A. D. McCall	65.00
	12.	Board of F. B. Hayes	65.00
	12.	Board of Robt. B. Benham	25.00
	16.	Board of Bryan Hall	65.00
	23.	Board of Mary E. Watkins	16.50
	23.	Board of Chas. K. Yancey	91.00
	30.	Board of Amon Woodward	20.00
	30.	Board of Robt. B. Benham	30.00
	30.	Board of Benj. F. Ellis	4,870.00
	30.	Board of Catharine V. Supplee	25.00
	30.	Sale of stock, etc	539.93
Aug.	3.	Board of W. H. Zepp	91.00
	4.	Special attendance of S. C. Borrows	50.00
	5.	Board of Henry C. Dean	25.00
	8.	Board of Esau Gresham	25.00
	10.	Board of Martha Herman	25.00
	12.	Board of J. A. Kellogg	20.00
	16.	Board of Fannie L. Jecko	50.00
	19.	Board of John N. Berryman	65.00
	24.	Board of Jos. Archambeau	8.00
	26.	Board of Robt. B. Benham	30.00
	26.	Board of Geo. W. Webb	30.00
	26.	Board of J. A. Kellogg	32.50
	27.	Board of Chu-e-rah-rah-he-kah	91.00
	31.	Board of Earl S. Stone	65.00
	31.	Board of C. V. Supplee	25.00
	31.	Board of Amon Woodward	20.00
	31.	Board of Emily B. Wadsworth	35.00
	31.	Sale of stock, etc	133.30
Sept.	3.	Board of E. C. Carrington	100.00
	9.	Board of Mary E. Watkins	16.00
	9.	Board of William H. Hindes	65.00
	12.	Board of Martha Herman	20.00
	14.	Board of E. C. Carrington	50.00
	14.	Board of Rufus E. Wilcox	130.00
	18.	Board of F. P. Davis	65.00
	26.	Board of J. G. Hildt	65.00
	28.	Board of William B. Remey	202.96
	30.	Board of Henry Shipley	67.85
	30.	Board of Edward Burchell	84.00
	30.	Board of Catharine V. Supplee	20.00
	30.	Board of Amon Woodward	25.00
	30.	Board of Robert B. Benham	25.00
	30.	Board of Adolph Berger	65.00
	30.	Board of Jos. P. Hutchins	72.00
	30.	Special attendance of S. C. Borrows	157.15
	30.	Board of M. A. Gilleland	65.00

1892.			
Sept.	30.	Board of A. D. McCall	$65.00
	30.	Board of Fannie L. Jecko	50.00
	30.	Special attendance of Rollin Perkins	75.00
	30.	Board of Bryan Hall	65.00
	30.	Board of United States Soldiers' Home	1,045.00
	30.	Sale of stock, etc	57.69
Oct.	8.	Board of Augusta Naylor	80.00
	10.	Board of Martha Herman	20.00
	15.	Board of Mary E. Cazenove	156.00
	15.	Board of C. K. Yancey	91.00
	15.	Board of Augusta Naylor	692.75
	15.	Board of Mary E. Webster	65.00
	15.	Board of F. M. Cook	65.00
	15.	Board of William H. Rose	65.00
	15.	Board of R. B. Benham	25.00
	15.	Board of F. B. Hayes	65.00
	15.	Board of John A. Cutter	117.00
	22.	Board of Edward Allen	20.00
	26.	Board of Emily B. Wadsworth	30.00
	29.	Board of J. E. Wilson	82.00
	29.	Special attendance of Edward Burchell	253.00
	31.	Board of Mary E. Watkins	16.50
	31.	Board of William Griffith	65.00
	31.	Board of Amon Woodward	20.00
	31.	Board of Martha Herman	20.00
	31.	Board of Esau Gresham	65.00
	31.	Board of George W. Webb	50.00
	31.	Board of Marine-Hospital Service	1,440.00
	31.	Sale of stock, etc	89.97
Nov.	4.	Board of Catharine V. Supplee	25.00
	9.	Board of John N. Berryman	65.00
	21.	Board of Robert B. Benham	25.00
	23.	Board of J. A. Kellogg	50.00
	25.	Board of Fannie L. Jecko	50.00
	30.	Board of J. A. Kellogg	11.79
	30.	Board of Catharine V. Supplee	25.00
	30.	Board of Amon Woodward	20.00
	30.	Board of William H. Hindes	65.00
	30.	Board of John G. Hildt	65.00
	30.	Board of Frances Winn	60.00
	30.	Board of Jos. P. Hutchins	72.00
	30.	Sale of stock, etc	414.13
Dec.	5.	Board of Mary S. Hart	100.00
	9.	Board of Martha Herman	25.00
	21.	Board of Rufus E. Wilcox	65.00
	21.	Board of Chu-e-rah-rah-he-kah	91.00
	22.	Board of James S. Atkinson	20.00
	23.	Board of E. B. Wadsworth	65.00
	26.	Board of Franklin P. Davis	65.00
	31.	Board of Amon Woodward	25.00
	31.	Board of United States Soldiers' Home patients	1,016.43
	31.	Board of Catharine V. Supplee	25.00
	31.	Special attendance of S. C. Borrows	260.00
	31.	Board of Francis M. Cook	65.00
	31.	Board of Earl S. Stone	65.00
	31.	Board of Frank B. Hayes	65.00
	31.	Board of Marine-Hospital Service	1,535.14
	31.	Transportation of Charles Deehurst, Marine-Hospital Service	16.50
	31.	Sale of stock, etc	113.50
1893.			
Jan.	10.	Board of M. A. Gilleland	65.20
	10.	Board of Thomas Hynes	130.00
	10.	Board of Martha Herman	20.00
	10.	Board of John A. Cutler	58.50
	10.	Special attendance of Rollin Perkins	75.00
	12.	Board of Bryan Hall	65.00
	12.	Board of Adolph Berger	65.00
	19.	Board of Mary E. Watkins	16.00
	21.	Board of Charles K. Yancey	91.00

1893.		
Jan. 24.	Board of Benjamin F. Ellis	$353.05
25.	Board of Mary E. Webster	65.07
26.	Board of W. H. Zepp	182.00
28.	Board of Francis D. Rucker	60.00
28.	Special attendance of Edward Burchell	211.00
31.	Board of R. Benham	30.00
31.	Board of George W. Webb	61.00
31.	Board of Amon Woodward	20.00
31.	Board of J. A. Kellogg	25.00
31.	Board of Martha Herman	20.00
31.	Sale of stock, etc	229.28
Feb. 10.	Board of Esau Gresham	65.00
13.	Board of W. H. Rose	60.00
24.	Board of John N. Berryman	65.00
27.	Board of Augusta Naylor	80.00
28.	Board of R. B. Benham	30.00
28.	Board of William H. Hindes	65.00
28.	Board of Amon Woodward	20.00
28.	Board of James E. Wilson	46.00
28.	Sale of stock, etc	141.47
Mar. 10.	Board of Martha Herman	25.09
10.	Board of Francis Winn	40.00
10.	Board of A. D. McCall	65.00
15.	Board of John Hildt	65.00
21.	Board of Franklin P. Davis	65.00
23.	Board of Chu-e-rah-rah-he-kah	147.00
24.	Board of Joseph P. Hutchins	72.00
24.	Board of Rufus E. Wilcox	65.00
28.	Board of Mary E. Watkins	32.50
28.	Board of Emily B. Wadsworth	65.00
29.	Board of J. A. Kellogg	25.00
31.	Board of United States Soldiers' Home patients	910.71
31.	Board of C. V. Supplee	25.00
31.	Board of Amon Woodward	25.00
31.	Board of E. A. Bradley	195.00
31.	Special attendance of Edward Burchell	211.00
31.	Board of Martha Herman	20.00
31.	Board of M. A. Gilleland	65.00
31.	Sale of stock, etc	82.60
Apr. 10.	Special attendance of Rollin Perkins	75.00
11.	Board of J. A. Kellogg	15.00
14.	Board of John A. Cutter	58.50
14.	Board of Marine-Hospital Service	1,537.07
14.	Board of Frank B. Hayes	65.00
14.	Board of Bryan Hall	65.00
14.	Board of Francis M. Cook	65.00
15.	Board of R. B. Benham	30.00
15.	Special attendance of S. C. Borrows	260.00
17.	Board of Mary E. Webster	65.00
18.	Board of Mary S. Hart	52.14
21.	Board of Charles M. Callahan	10.00
21.	Board of Charles K. Yancey	91.00
21.	Board of Adolph Berger	65.00
22.	Board of George W. Webb	91.00
28.	Board of Emily B. Wadsworth	14.28
29.	Board of Amon Woodward	20.00
29.	Board of C. V. Supplee	25.00
29.	Board of Thomas Hynes	130.00
29.	Board of Martha Herman	20.00
29.	Board of Earl S. Stone	65.00
29.	Sale of stock, etc	260.72
May 12.	Board of Benjamin F. Ellis	130.00
12.	Board of George Hare	65.00
13.	Board of Chu-e-rah-rah-he-kah	91.00
13.	Board of James Williams	91.00
13.	Board of Hard Hearing Fool	91.00
16.	Board of John N. Berryman	65.00
16.	Board of J. A. Kellogg	50.00
26.	Board of Carolina Hotchkiss	10.00

1893.		
May 31.	Board of C. V. Supplee	$25.00
31.	Board of Amon Woodward	20.00
31.	Board of C. M. Callahan	10.00
31.	Sale of stock, etc	402.74
June 6.	Board of A. D. McCall	65.00
6.	Board of William H. Hindes	65.00
7.	Board of F. Winn	60.00
10.	Board of C. L. Hotchkiss	5.00
12.	Board of Fanny P. Stroud	20.00
12.	Board of Martha Herman	25.00
15.	Board of Henry Raff	20.00
16.	Board of Frank P. Davis	65.00
17.	Board of C. L. Hotchkiss	5.00
19.	Board of Rufus E. Wilcox	65.00
22.	Board of Warren Webster	3.00
23.	Board of C. L. Hotchkiss	5.00
23.	Board of John G. Hildt	65.00
27.	Board of Le Moine Lowe	15.71
28.	Board of E. A. Bradley	65.00
30.	Board of Amon Woodward	25.00
30.	Board of C. L. Hotchkiss	25.00
30.	Board of Augustus Hathaway	5,151.43
30.	Sale of stock, etc	131.00
	Total	34,133.87

REPORT

OF THE

ARCHITECT OF THE UNITED STATES CAPITOL.

OFFICE OF THE ARCHITECT OF THE
UNITED STATES CAPITOL,
Washington, D. C., July 1, 1893.

SIR: I have the honor most respectfully to present the following report in relation to the improvements and repairs made to the various works connected with this office during the last fiscal year and to give a summary of the amounts expended therefor as disbursed by your Department.

THE CAPITOL.

The principal improvements have been the extension of the platforms of the Hall of Representatives, to give additional seating capacity for the increased number of members; the extension of the Senate kitchen; the construction of additional coal vaults, and the rearrangement of the plumbing throughout the building.

The marble bust of Elbridge Gerry has been received and added to the collection of those who have been Vice-Presidents of the United States.

The new apartment, 16 by 54 feet, for the Senate kitchen has been constructed under the pavement of the open court, at the east front, between the Senate wing and the old building, the walls and ceiling of which are incased with glazed tile and bricks and the whole supplied with an outfit of the most approved cooking apparatus.

The coal vaults are built under the pavement and grass plat at the east front, and have a capacity of 800 tons of coal. Automatic steam regulators and draft valves have been placed in connection with the Senate steam boilers and to the smoke flues of these boilers.

The electric-lighting system has been extended to the document rooms in the attic story of the Senate wing and to various committee rooms, so that now the dynamos are taxed nearly to their utmost capacity.

Again it is hoped that the question of the Government owning the electric-light plant instead of renting the same, as at present, will be favorably considered.

An unusual amount of painting, plastering, and repairs has been done, made necessary by the cutting of walls, ceilings, and floors in the various rooms throughout the building in which the sanitary improvements

have been made. The particulars of these improvements are set forth in detail in the following letter of George E. Waring, jr., sanitary engineer:

NEWPORT, R. I., *July 1, 1893.*

SIR: As engineer in charge of the reconstruction of the drainage of the United States Capitol building, I beg to submit the following report on my work during the fiscal year ending June 30, 1893:

On May 28, 1892, in connection with Surg. John S. Billings, U. S. Army, and in accordance with instructions received from the Committee on Public Buildings and Grounds of the United States Senate, I submitted a report describing the sanitary condition of the Capitol building as to ventilation and drainage, as disclosed by a careful examination of all accessible details of the work, made during the preceding two months. On June 28, 1892, I made a further report recommending the reconstruction, substantially, of all of the foul drainage system as far as points in the main sewers beyond the foundations of the building, and submitting estimates of the cost of the work.

Recommendations were also made as to the alteration and rearrangement of the Senate kitchen.

These reports, in which the existing conditions were set forth in detail, were printed as a Senate document (Report No. 880, Fifty-Second Congress, first session).

The recommendations contained in these reports were adopted, and in the sundry civil bill of August 5, 1892, was contained an appropriation of $97,469.06, of which $6,000 was for additions to the Senate coal vaults, the remainder being for the improvements recommended in the reports, divided as follows:

Improving ventilation of Senate Chamber, etc	$8,800.00
Drainage and plumbing for entire building	68,126.06
Senate kitchen construction, alteration, and furnishings	14,570.00
Total	91.496.06

Specifications were prepared and contracts for the work were made as follows:

Durham House Drainage Company, of New York—drain, soil, and waste pipe work	$27,984.50
W. H. Quick, New York—plumbing fixtures and connections, and marble work	36,475.01
H. I. Gregory, Washington, D. C.—cooking fixtures and connections	1,906.90
Total	66,366.41

Bids were also received for tiling, and the work awarded at a price per square foot. All the remainder of the work has been done by day's labor.

The work of reconstruction began in August, 1892, and continued steadily until the convening of Congress December 5, when it became necessary to reduce the force employed, and to work only in parts of the building not needed for Congressional purposes. Active work recommenced in the south wing soon after the close of Congress, March 4, 1893, and in the north wing when the Senate adjourned April 15, 1893.

As the Supreme Court sat until May 15, 1893, but little work could be done in the center building before then.

In the reconstruction of the work it was decided to use the "Durham system" of piping with screw joints for all soil and waste pipes. In all joints of this system the female screw is cut in an offset in the coupling or other fitting. This offset corresponds with the thickness of the walls of the male screw piping, which fills it exactly, being screwed in until it strikes a shoulder, which forms the inner end of the offset, and which in turn has the same diameter as the inner bore of the piping. When the fitting is screwed home the inner line of the channel is an uninterrupted bore of constant diameter, which affords no opportunity for the detention of substances which might lead to the formation of an obstruction.

The main outlet for each of the three divisions of the building is an 8-inch galvanized-steel pipe, suspended in the brick sewer by galvanized-iron straps, secured to the masonry by expansion bolts. Occasionally this pipe rests upon other pipes which cross the sewer, and additional support is given by the branch lines which enter along its course. Each of these outlets is continued beyond the trap of the sewer and has its own running trap, with a fresh-air inlet on the upper side.

In the Senate wing this pipe continues to a point inside of the main west wall of the wing, where it is entered by a 6-inch branch, which receives the wastes of a large number of fixtures, mainly those on the north side of the wing. Above this point the main has a diameter of 6 inches, reducing later to 5 inches.

The outlets from the House wing and the center building are constructed in sub-

stantially the same manner. The outlets for the foul drainage from the terraces discharge into the sewers which take the wastes from the engine rooms.

All piping below the floor of the basement is of galvanized steel, with screw joints. It is readily accessible, and can be inspected at will and easily renewed if it should ever rust out. Above this floor, and to the open ends above the roof, all waste and soil pipes are of brass, iron-pipe thickness, with screw joints. They range in size from 5 to 2 inches in diameter, and in nearly all cases are accessible and exposed to view.

Wherever visible they are run in single lengths without couplings, and heavily nickel-plated and polished. The material of these pipes will endure as long as the building stands. The increased cost is not to be considered in view of the permanence of the work.

All lines below the basement floor were tested hydraulically, and every joint was proved absolutely tight. Above this point the pipes were tested with a pneumatic pressure of 10 pounds to the square inch, and all leaks, however slight, were hermetically closed. No work was accepted until it had been inspected under this test.

Every pipe that receives foul wastes extends full size above the highest ceiling: from this point it is enlarged, carried through the roof and left open at the top. This, in connection with the air inlet at the foot of each outlet, assures thorough ventilation of the entire system.

Siphon water-closets are used (Dececo) which have a seal of 4½ inches of water. The trap is within the bowl itself and in full sight.

The sinks in kitchens and pantries are provided with grease traps, which congeal and collect the grease, and then discharge it en masse with a copious flushing stream that insures its entire removal. The complicated and expensive system of "back-vent" pipes is avoided by the use of antisiphon traps—one to each of the minor fixtures.

All work is being done in the best possible manner and under rigid inspection, and it is believed that when the entire system shall have been completed the drainage of the whole building will be as safe and perfect as modern sanitary knowledge can make it. The work is being carried on as rapidly as possible, and it is hoped that all will be finished before September next.

My partner, Mr. Farquhar, will deliver to you complete plans of the system.

A new kitchen for the Senate restaurant has been built between the foundations of the Senate wing and the coal vaults adjoining. The vaults and passage ways formerly used as a kitchen have been converted into cooks' hall, serving room, storeroom, etc., in such a manner as fully to carry out the recommendations set forth in the Senate document above referred to. This portion of the work is substantially completed.

The following summary shows in detail the quantity of work completed in the fiscal year 1892–'93:

Piping.

	Galvanized steel.	Plain brass.	Brass nickel plated.	In all.
	Feet.	*Feet.*	*Feet.*	*Feet.*
2-inch	770	580	15	1,365
3-inch	1,140	315	480	1,935
4-inch	1,345	430	625	2,400
5-inch	1,190	105	105	1,400
6-inch	355	.....	.....	355
8-inch	355	.....	.....	355
Total	5,155	1,430	1,225	7,810

Fixtures set in complete working order.

Washbasins	109
Bathtubs	6
Sinks	11
Corridor sinks	16
Water closets	52
Urinals	21
Total fixtures	215

On the completion of the work, and the presentation of my final report, a complete tabulated statement of all items will be made.

Respectfully submitted.

GEO. E. WARING, Jr.

EDWARD CLARK, Esq.,
Architect U. S. Capitol, Washington, D. C.

CAPITOL TERRACES.

Steam coils have been placed in the various corridors and in many of the rooms of the terraces where heat is required.

Copper roofs have been built over the arches under the north and south steps for the better protection of the corridors below.

CAPITOL GROUNDS.

The artificial concrete walks and roads have been repaired and a quantity of asphaltic roadway laid upon the west plaza. The gravel carriage ways have also been repaired and are in good condition.

In relation to the trees, lawns, and shrubbery Mr. Cogan, the gardener, says:

> During the winter the trees and shrubs were properly pruned, and a number of the latter were removed from the borders where necessary, thus affording more air and light to the permanent plants.
>
> Several plants heretofore considered tender, and planted on the grounds as an experiment, have stood the severe cold of last winter and are now vigorous and healthy, while others, considered hardy, have died.
>
> I beg to call your attention to the unfinished condition of the lawn west of the House wing of the Capitol. Its unsightly appearance so near the building is the subject of much criticism, and the longer the work of grading is delayed the more expensive it will be to finish it, as the public dumps to which the surplus material must be hauled are each year becoming more remote from the Capitol.

COURT-HOUSE, WASHINGTON, D. C.

A toilet room with the necessary plumbing has been fitted up at the room east of the criminal court room for the use of the clerk's office.

The wooden floor of the western court room of the old building has been extended to cover the entire area of the room. A platform for the jury and a witness box have been placed in this room.

A room at the south end of the east wing has been prepared for judge's retiring room.

The heating apparatus and steam machinery have been put in good condition for the coming winter, and the interior of the building kept in good repair. The exterior of the building is in an unsightly and dilapidated state for the need of paint and other repairs.

UNITED STATES BOTANIC GARDEN.

Two propagating houses and the cool orchid house have been reconstructed, with iron sills and rafters and artificial stone walks laid in same. The wings of the large conservatory have been reglazed and painted two coats. A new steam boiler has been provided for this building and for one of the propagating houses. General repairs have been made to the heating apparatus of this and to other buildings connected with the garden. New staging has been erected and a large amount of glazing and repairing of sash done in the several propagating houses.

Repairs have also been made to the concrete walks of the garden.

SMITHSONIAN INSTITUTE.

The main roof has been thoroughly repaired and new roofs placed on the towers. The copper gutters have been repaired and copper rain pipes have been substituted for those of tin, which were almost useless by reason of their decay.

The bay of rooms at the southeast portion of the cellar story are being rendered available for office purposes by lowering the floors, underpinning the walls, and increasing the size of the windows.

The plumbing and drainage of the eastern end of the building has been rearranged and improved.

FILES ROOM, COURT OF CLAIMS.

The one-story building for files room at the Court of Claims, authorized by act of Congress, May 13, 1892, has been completed and furnished with file cases, the cost being within the amount appropriated for this purpose.

Expenditures for work at the Capitol and for general repairs thereof.

Pay-rolls, mechanics, laborers, etc	$19,069.63
Labor not on rolls, paid by voucher	574.86
Machinery, iron, and metal work	1,841.71
Brushes, brooms, sponges, chamois, and soap	583.64
Hauling and expressage	38.89
Hardware	763.50
Lumber and millwork	1,335.19
Steamfitting and plumbing	962.66
Bricks, lime, sand, and cement	242.60
Cooking range	196.00
Fuel	143.65
Covering steam pipes	44.40
Disinfectants	30.00
Forage and harness	156.60
Paints, oils, and glass	1,814.71
Covering fly-doors	18.63
Tin and copper work	37.75
Marble, tiles, and tiling	547.49
Brass registers for floors	586.95
Care and repair of clocks	100.00
Silver and nickel plating	47.50
Grates and grate bars	737.97
Books and stationery	138.67
Total	30,000.00
Appropriated August 5, 1892	20,000.00
Appropriated March 3, 1893	10,000.00
	30,000.00

Expenditures on account of the sanitary improvement, including extension of Senate kitchen and coal vaults.

Pay rolls, mechanics, laborers, etc	$14,891.79
Labor not on rolls, paid by voucher	230.69
Material for gas, steam, water pipes and fittings	1,086.58
Hardware and metal work	923.74
Excavation	1,350.08
Lumber and mill work	412.53
Tiles and tiling	1,821.99
Slate, granite, and marble work	193.79
Granolithic pavement	283.37
Plastering	365.90
Bluestone	272.58
Sodding material	53.84
One disc fan	190.00
Lime, brick, sand, and cement	2,500.93
Candles	25.60
Galvanized-iron work	125.00
Expressage	58.52
Advertising	12.83

Brass registers for Senate floors	$1,018.78
Stationery and blue-print work	163.95
Durham House Drainage Co., of New York	24,570.00
W. H. Quick, plumbing and marble work	15,300.00
H. I. Gregory, kitchen fixtures	1,215.00
Services :	
Waring, Chapman & Farquhar	871.30
George E. Waring, jr	1,518.47
F. W. Farquhar	2.106.50
Balance unexpended	25,932.30
Total	97,496.06
Amount appropriated August 5, 1892	97,496.06

CAPITOL TERRACES.

Pay rolls, mechanics, laborers, etc	$443.39
Labor not on rolls paid by vouchers	279.38
Bricks, lime, sand, and cement	262.05
Lumber and mill work	300.03
Marble and granite work	480.55
Plumbing material and steam fitting	723.99
Asphalt and granolithic pavement	314.67
Paints, oils, and glass	422.06
Copper work	238.64
Hardware	133.39
Blue-print work	9.00
Expressage	5.87
Balance unexpended July 1, 1893	4,855.02
Total	8,468.04
Available July 1, 1892	468.04
Appropriated August 5, 1892	8,000.00
	8,468.04

CAPITOL GROUNDS.

Pay rolls, mechanics, laborers, etc	$13,329.10
Labor not on rolls, paid by voucher	242.81
Artificial pavement	831.84
Hardware and iron work	149.77
Fuel, blacksmith shop	84.15
Moving shelter house of Washington statue	70.00
Gravel	15.00
Hauling and expressage	2.35
Lumber	2.47
Plumbing material	22.30
Agricultural implements, tools, etc	70.81
Brooms, brushes, etc	84.00
Paints and oils	13.95
Fertilizers, seeds, etc	81.45
Total	15,000.00
Amount appropriated August 5, 1892	15,000.00

LIGHTING U. S. CAPITOL GROUNDS AND BOTANIC GARDEN.

Gas service	$15,766.37
Pay rolls, lamplighters, gasfitters, etc	2,681.00
Chandeliers, lamps, and other material	1,052.03
Pay of attendants, electric-light plant	3,276.45
Rent of electric-light plant	874.19
Extension of electric-light plant	349.96
Total	24,000.00
Appropriated August 5, 1892	24,000.00

STEAM HEATING, SENATE WING.

Automatic drafts and steam regulators	$708.75
Steam pipes and steam valves	322.55
Labor of machinist	71.02
Expressage	1.38
Balance unexpended	1,271.30
Total	2,375.00
Appropriated August 5, 1892	2,375.00

ELECTRIC-LIGHT PLANT, SENATE.

Material for extending plant and repairs	$757.41
Balance unexpended	10,215.45
Total	10,972.86
Available July 1, 1893	10,972.86

Very respectfully,

EDWARD CLARK,
Architect U. S. Capitol.

To the Hon. SECRETARY OF THE INTERIOR.

REPORT

OF THE

SUPERINTENDENT OF THE HOT SPRINGS RESERVATION.

HOT SPRINGS RESERVATION,
OFFICE OF THE SUPERINTENDENT,
Hot Springs, Ark., August 28, 1893.

SIR: I have the honor to submit the following report of the operations of this office for the fiscal year ending June 30, 1893.

My incumbency of this office only covers a period of one month, from June 1 to June 30, and my report can not, therefore, be as comprehensive as I would like to make it.

The Government's interests at Hot Springs, over which the superintendent has control and supervision, are the four mountain reservations, as follows:

	Acres.
Hot Springs Mountain	264.93
North Mountain	224.74
Sugar Loaf Mountain	129.02
West Mountain	281.94
Total	900.63

and the unsold Government lots, 156 in number, which are situated in different parts of the city. The four mountain reservations above mentioned comprise the "permanent reservation" at Hot Springs, Ark., and are, by act of Congress approved June 16, 1880, "forever reserved from sale and dedicated to use as public parks."

The hot springs, which are 71 in number, all issue from the west side and base of the Hot Springs Mountain, the temperature and elevation of which are shown by the following table:

Table of springs upon the Hot Springs Mountain Reservation.

[Datum of levels.—The lowest point on the Hot Springs Reservation, being on the east side where the Hot Springs Railroad enters the same, approximates 500 feet above the tide water of the Gulf.]

No.	Temperature.	Elevation.	Character.	No.	Temperature.	Elevation.	Character.
	°	*Feet.*			°	*Feet.*	
1	77	91.4	Constant flow.	10	121.5	181.2	Constant flow.
2	76	98.7	Do.	11	105	120	Do.
3	124	98	Do.	12	111	117.5	Do.
4	124	98.3	Do.	13	135.5	85.2	Do.
5	80	115.6	Do.	14	137	84.3	Do.
6	103	171.6	Do.	15	134	84.7	Do.
7	115	172.2	Do.	16	101	135.8	Do.
8	121.5	177.5	Do.	17	.....	140	Scapagao
9	122	179.6	Do.	18	93	158.3	Constant flow.

Table of springs upon the Hot Springs Mountain Reservation—Continued.

No.	Temperature.	Elevation.	Character.	No.	Temperature.	Elevation.	Character.
	°	*Feet.*			°	*Feet.*	
19	84	159.3	Constant flow.	46	.....	109.8	Constant flow.†
20	83	162.8	Do.	47	144.5	176.5	Do.
21	106	107	Do.	48	91	178.9	Do.
22	122	118.2	Do.	49	131	176.1	Do.
23	125	123.8	Do.	50	145	179.6	Do.
24	113	127.7	Do.	51	144	182.8	Do.
25	111	127.7	Do.	52	142	178.3	Do.
26	106	127.9	Do.	53	145.5	186.1	Do.
27	127.5	130.3	Do.	54	146	186.1	Do.
28	145	129.4	Do.	55	122	92.7	Do.
29	90	140.4	Do.	56	133	95.3	Do.
30	134.5	148.3	Do.	57	128	100.2	Do.
31	147	133.2	Do.	58	.....	101.9	Do.‡
32	124	95.7	Do.	59	133	102	Do.
33	140	89.8	Do.	60	134.5	112.9	Do.
34	120	91.8	Do.	61	133	186.1	Do.
35	135	91.8	Do.	62	109	186.3	Do.
36	110	90.4	Do.	63	83	186.2	Do.
37	120	155.5	Do.	64	135	186.6	Do.
38	128	90.2	Do.	65	141	186.1	Do.
39	125.5	92.2	Do.	66	87	185.3	Do.
40	112	92.3	Do.	67	.....	113	Intermittent.§
41	157	113.5	Do.	68	131	85	Constant flow.
42	.....	110.2	Do.*	69	83	89.7	Do.
43	144	164.4	Do.	70	89	89.4	Do.
44	.....	162.8	Do.*	71	94	89.3	Do.
45	111	171.8	Do.				

* Under big iron bath house.
† Under bath house on hill.
‡ Inaccessible, near Arsenic Spring.
§ In Arlington yard. Flows after heavy rain; 134.0.

FREE BATH HOUSE.

This building was completed and opened to the public on February 23, 1891, and has since that time been in continuous use.

The building is constructed of brick, stone, and wood, with iron cornice and metal roof. The size of the main building is 45 by 60 feet, and contains the office, waiting rooms, dressing rooms, etc., on the first floor, while the second floor contains five rooms which were designed for, and are being used by, the manager and attendants. The bathing department is one story, 20 by 53 feet, and divided into two departments, the one for men being larger, containing two pools 12½ feet square, while the pools for women are but 7 by 12½ feet. The object in having two pools in each department is that one may be used for bathing while the other is being refilled. All the pools are built of solid masonry and concreted, and are in fairly good condition. The concrete floors in the sweating rooms are in bad condition, and need to be replaced with new floors of better workmanship.

The building is heated by the hot water system, the furnace being located in a small basement excavated for that purpose, which is damp and in bad condition. The heating apparatus has never been completed, no radiators ever having been furnished for the second story. Neither has the building ever been fitted for gas or electricity.

Much inconvenience is caused by the want of a proper system of hot water and cooling tanks for this house, the present supply being entirely of hot water from one of the hottest springs with no means of tempering it for immediate use. I therefore recommend that the engineer in charge of the improvements now being made on the reservation be instructed to provide a proper system of tanks for the use of this bath house, the cost of which to be paid out of the fund "For the protection and improvement of Hot Springs Reservation" other than that set aside for park improvements. I also recommend that the

superintendent be authorized to make the following repairs which are necessary for the protection and usefulness of the building.

First. Painting the roof, cornice, and woodwork, both on the outside and inside of the building.

Second. Mending the plastering, which is badly cracked from the settling of the building, and calcimine the walls.

Third. Fitting the building for gas or electric light.

Fourth. Replacing or mending the concrete floors.

Fifth. Covering the office floors with linoleum.

The usefulness of these baths in curing diseases has been much hampered and hindered by the order permitting their promiscuous use. The capacity of the house is not sufficient to bathe above 300 persons daily, allowing each one sufficient time in the baths and sweating rooms to receive the benefits which the use of this water is supposed to give. Overcrowding by persons who use these baths only as a matter of economy is both unjust and uncharitable to the actually indigent population, for whose protection this house was constructed and is maintained, and they are always present and soliciting this charity from the Government in sufficient numbers to tax the capacity of this house.

IMPOUNDING RESERVOIR AND PUMPING STATION.

This generous improvement stands as it has since its completion, June 8, 1891.

The impounding reservoir is serving a valuable and useful purpose to the Government in collecting and preserving a large body of hot water which can not be collected or made available at a higher level, and which will have to be drawn on to supply water for leases granted, which are not yet supplied with water, and also to supply whatever leases which may hereafter be granted.

The building and machinery of the pumping station are receiving the necessary attention for their proper protection and preservation, and are at present in good condition.

HOT SPRINGS CREEK ARCH.

This magnificent improvement, the first made at Hot Springs by the Government, continues to serve the useful purpose for which it was constructed, and is apparently in good condition.

OFFICE BUILDING AND GROUNDS.

This building is being used for the purpose for which it was constructed—an office and residence for the superintendent; it is ample and comfortable for that purpose. It has, however, never been entirely finished; the basement story seems to have been designed for servants' rooms, but the necessary partition walls have never been put in.

The building has settled badly since it was erected, and caused great damage to the plastering; the roof is also in need of repairs and painting. It is also necessary that the building be screened with wire screens in order to protect the furniture and carpets (which are the property of the Government) from moths and insects, which are very numerous.

The grounds have had what seems to be proper attention from Lieut. Robert R. Stevens, the engineer in charge of the improvements now being made on the reservation.

BATH-HOUSE PARK.

This littie plot of ground, which extends parallel with Central avenue from Fountain street to Reserve avenue, and which has never until lately received much attention from anyone, has now, under the skillful hands of Lieut. Stevens, become a beautiful park, which, when completed, and the grass and shrubs are given a little time to grow, will compare favorably with any of the small parks about the capital. It adds greatly to the appearance of the bath houses and the city, and is much appreciated and used by both visitors and citizens.

ARLINGTON HOTEL.

This magnificent hotel was completed and opened to the public on the 25th day of March, 1893. It is not only a credit to the city of Hot Springs, but is a credit to the Government reservation on which it stands.

The building is constructed of stone, brick, iron, and wood and is of Spanish renaissance style of architecture, with mosaic floors throughout the first story, which is principally devoted to offices, reading and writing rooms, barber shop, bowling alleys, billiard and bar rooms, etc. The grand parlors are also on this floor, and are very handsomely and expensively furnished.

On the upper floors are 300 guest chambers, handsomely furnished, the furniture being of bird's-eye maple, mahogany, curled birch, cherry, and oak, with Wilton velvet, moquette, and body Brussels carpets. The halls are wide and have easy connection, by means of iron bridges, with the roads and walks on the side of the mountain, making an excellent system of fire escapes.

The house is heated with steam and lighted by both electricity and gas. No fires are lighted in the house except in the rotunda and grand parlors. The plumbing is excellent, the closets throughout the house having mosaic floors, marble partitions, and exposed plumbing, and are ample in number for each portion of the building.

The passenger and baggage elevators are run by water, and are ample for the convenience of the guests.

The kitchen, storerooms, boiler rooms, and laundry all have concrete floors, which, with the excellent system of sewerage and plumbing, makes cleanliness in this part of the house an easy matter. The cost of the building and furnishings is given at $400,000.

RECEIPTS AND DISBURSEMENTS.

The Government's annual income from water and ground rents is as follows:

	Tubs.	Amount.		Tubs.	Amount.
Bath houses:			Bath houses—Continued.		
Park	40	$1,200	Avenue	20	$600
Eastman	40	1,200	Rammelsberg	18	540
Arlington	40	1,200	Superior	16	480
Alhambra	40	1,200	New Hot Springs	16	480
Lamar	40	1,200	St. Joseph's Infirmary	4	120
Horse Shoe	30	900	Sumpter	4	120
Magnesia	30	900		475	14,250
Old Hale	26	780	Arlington Hotel ground rent		2,500
Imperial	25	750	New York Hotel Co., for extra water		30
Palace	23	690			
Ozark	22	660	Total		16,780
Maurice	21	630			
Rockafellow	20	600			

The regular expenditures, not including fuel and lights, are as follows:

Salaries, per annum:	
Superintendent	$2,500
Manager of free bath house	1,020
Male attendant at free bath house	660
Female attendant at free bath house	360
Scavenger at free bath house	120
Watchman at pumping station	600
Policeman on reservation	480
Waterman on reservation	480
Messenger at superintendent's office	180
Total	6,400

Making the total net income of the Government from Hot Springs, $10,380.

There are four other leases granted by the Department on which no bath houses have yet been erected and no water supplied or water rent collected; when these become operative (if they should) the Government's net income from Hot Springs would be about $12,500 annually.

ALHAMBRA BATH HOUSE.

The building is of brick, the main portion 50 by 50 feet, three stories high, contains the offices, parlors, and cooling rooms; also the Turkish baths and massage rooms.

The extension to the rear, 50 by 94 feet, one story high, contains 34 tubs, the shower, needle, vapor, electric, and other baths, and a large sweat room.

The house is furnished with steam heating apparatus, and its ventilating and plumbing systems are perfect.

The cost of this house is given at $50,000. Lease expires February 28, 1894. Forty tubs.

PARK BATH HOUSE.

This is a large brick building in a good state of repair, neatly and comfortably furnished, has all the modern conveniences for bathing, and is well conducted. It is connected with the Park Hotel by a bridge. Lease expires May 12, 1912. Forty tubs.

EASTMAN BATH HOUSE.

This is a large brick building in good state of repair, has marble partitions, tile floors, and all the modern conveniences for bathing; is connected by a bridge with the Eastman Hotel. Lease expires May 12, 1912. Forty tubs.

IMPERIAL BATH HOUSE.

This is of Moorish architecture, 75 feet front by 70 feet deep, two stories high with tower above, most pleasing in design and appearance, and constructed of cut stone, St. Louis pressed brick, slate and metal roof, entirely fireproof, having encaustic tile floors, granite plastering, and the bathing department having Italian marble partitions. steel sheet embossed ceilings, and all wood surfaces faced with galvanized iron, except doors and casings to openings.

The house consists of an office, two parlors, two cooling rooms, two hot rooms or improved sweating rooms, separate rooms for bath attendants with extra dressing and cooling rooms, and a small gymnasium upstairs, and twenty-five bathing rooms, including an electric bath and room for both ladies and gentlemen, and twelve vapor rooms constructed of galvanized iron, with glass tops and hollow walls.

The tubs in this house are all imported from England, being solid earthenware, commonly known as royal porcelain, with rolled rim or edge, and are of the latest and most improved pattern. The fittings to same and necessary implements for bathing are brass, nickel plated, with real bronze hardware throughout. This house is heated by a thorough system of steam heat readily controlled and regulated for each department. The ventilation in this house is both wall and overhead and is considered excellent. The doors, casings, and other finish are of cypress and oak with hard oil finish on natural wood. The usual tub bath is given with the douche, the vapor bath, the shower bath, needle bath, foot or leg bath, pack and electric baths, with the adjuncts of the hot rooms for extra or prolonged sweating, where the temperature is raised, when necessary, to 130 degrees.

The construction of this house is of the most substantial and endur ing character, a monument of beauty to the owners and a credit and an ornament to the reservation. Its cost was $34,000.

LAMAR BATH HOUSE.

This is a frame building, large and roomy, is kept in good repair and comfortably furnished, and has good management and fills a useful position as a medium-priced bath house. Lease expires December 31, 1896. Forty tubs.

RAMMELSBERG BATH HOUSE.

This is a brick building, old, in need of repairs; is indifferently furnished, but is kept clean, and fills a useful place as a cheap bath house. Lease expires December 31, 1898. Eighteen tubs.

OZARK BATH HOUSE.

This is a frame building, is kept in fairly good repair, is comfortably furnished, and helps to supply the popular demand for medium-priced baths. Lease expires December 31, 1902. Twenty-two tubs.

MAGNESIA BATH HOUSE.

A frame building, somewhat in need of repairs; is only indifferently furnished, but is kept clean, and is under good management as a cheap bath house. Lease expires December 31, 1894. Thirty tubs.

HORSESHOE BATH HOUSE.

This is also a frame building in need of repairs, with only indifferent furniture, but in as much as all the people who come to Hot Springs for baths are not rich or in search of the most expensive bathing accommodations, this house, together with the others of its class are much appreciated by people who find it necessary to economize in expenses. Lease expires December 31, 1894. Thirty tubs.

PALACE BATH HOUSE.

This is one of the better class of frame buildings, naving recently been overhauled and generally refitted and refurnished, and is now in all respects a very comfortable and respectable bathing establishment. Lease expires December 31, 1906. Twenty-three tubs.

MAURICE BATH HOUSE.

This is also a frame building, but has recently been rebuilt and refurnished, and is now an excellent bath house, under good management, and filling a good position as a medium-priced bathing establishment. Lease expires December 31, 1896. Twenty-one tubs.

OLD HALE BATH HOUSE.

This building is constructed of stone, brick, iron, and wood, being 100 feet by 45 feet; three stories, including basement.

The floors are supported on iron girders and brick arches, and are laid with handsome French tiling.

The bathing department consists of 26 rooms, with tile floors, marble partitions, and nickel-plated hardware. The tubs are rolled, rimmed, and porcelain-lined.

The ventilation of this house is excellent, the ceilings in the bathing departments being 20 feet high.

The office, parlors, and waiting rooms are tastefully furnished and of ample size.

The cost of the building is given at $25,000. Lease expires December 31, 1907. Twenty-six tubs.

SUPERIOR BATH HOUSE.

This is a substantial brick building, in good state of repair, has good management, and is neatly and comfortably furnished. Lease expires September 14, 1896. Sixteen tubs.

THE ARLINGTON BATH HOUSE.

This elegant bathing establishment was built in connection and opened contemporaneously with the Arlington Hotel. It is constructed of stone, brick, iron, and wood, with mosaic floors, marble partitions, and porcelain tubs, while the vapor baths are of marble and glass.

The waiting rooms, dressing rooms, cooling rooms, etc., are ample in size and handsomely furnished with large rugs and leather-upholstered furniture. The house has good ventilation and a readily adjustible system of regulating the temperature, and is connected with the wide halls of the Arlington Hotel, of which this bath house is part; it may be said to embrace about all that luxurious bathing could suggest. It has 40 tubs and cost approximately $53,000. Lease expires March 2, 1912.

THE NEW HOT SPRINGS BATH HOUSE,

Which is not yet quite completed, will be another monument to the efficacy of the "thermal waters" at Hot Springs.

The building is constructed of stone and pressed brick, with white limestone trimmings. It is situated on Fountain street, near the junction of Central avenue, and is 58 by 76 feet, three stories high.

The bathing department contains sixteen tubs, with two dressing rooms to each, eight vapor and two needle baths, the partitions and wainscoting being of Italian marble, while the floors are of encaustic tiles. The tubs are of German manufacture, solid porcelain, with 3½-inch rolled rims.

The office and waiting rooms are handsomely finished in marble and hard wood, and present a very substantial and pleasing appearance. The house has good ventilation and will be heated by steam.

Estimated cost, $35,000. Lease expires December 31, 1902. Sixteen tubs.

ROCKAFELLOW BATH HOUSE.

This is a frame building in fairly good repair, comfortably but not expensively furnished, is under excellent management, and fills a useful position as a medium-priced bath house. Lease expires June 30, 1895. Twenty tubs.

AVENUE BATH HOUSE.

This bath house is in the Avenue Hotel building. It has recently been entirely refitted with marble partitions, marble floors, and all modern conveniences for bathing; it is neatly furnished and well conducted. Lease expires December 31, 1897. Twenty tubs.

ST. JOSEPH'S INFIRMARY.

This privilege consists of four tubs only, and is used in connection with the infirmary. It is, however much appreciated by "the sisters," and of great benefit to them in the treatment of patients at their excellent infirmary. Lease expires December 31, 1896. Four tubs.

HOT SPRINGS AS A HEALTH RESORT.

With each year that passes, the fame of Hot Springs as a health resort spreads to the civilized nations of the earth, and with each succeeding season come health seekers from all climes and in all conditions, many to find temporary homes in the palatial hotels which have been erected here in the last few years, while the less fortunate will seek accommodations all the way down to a $4-a-week boarding house.

It is to be regretted that the impression has gone abroad that Hot Springs is a season resort, and that from January to May is the most auspicious time for using the baths. While there is nothing to disprove that these months are not as good as are the other months of the year for bathing, still the other months are just as good as these, and some of them better, on account of the more favorable and settled weather. There can be no more beautiful weather found anywhere than can be found here from September to December, or no more favorable time for bathing.

The hotel accommodations in Hot Springs have been greatly increased and improved, until now they probably surpass any other health resort in the country.

The city is now through the early stages of its infancy, and has acquired most of the modern improvements. Its government is intelligently administered, and there is perhaps no city in the country where better order is preserved or where better police regulations exist than in Hot Springs.

PUBLIC IMPROVEMENTS.

The superintendent, being advised that the engineer, Lieut. Robt. R. Stevens, in charge of the improvements being made on the Hot Springs Reservation, will report directly to the Department, does not feel it his duty to mention any of the matters of improvements, except to say that the work seems to be progressing satisfactorily, and that some very substantial and handsome improvements are being made. He therefore does not at this time make any recommendations as to public improvements further than the necessary repairs on the public buildings under his charge, which have been mentioned before in this report.

I am, sir, very respectfully, your obedient servant,

WM. J. LITTLE,
Superintendent.

The SECRETARY OF THE INTERIOR,
Washington, D. C.

REPORT

OF

THE OFFICER IN CHARGE OF THE HOT SPRINGS RESERVATION IMPROVEMENTS.

DEPARTMENT OF THE INTERIOR,
RESERVATION IMPROVEMENTS OFFICE,
Hot Springs, Ark., June 30, 1893.

SIR: In compliance with your instructions, I have the honor to submit the following report upon the service of the protection and improvement of the Government Reservation at Hot Springs, Ark., embodying account of work performed during the fiscal year of 1892 and 1893, and report and estimates of the remaining work required in the completion of said service.

The Government Reservation at Hot Springs, Ark., consists of—

	Acres.
Hot Springs Mountain (permanent reservation)	264.93
West Mountain	269.4
North Mountain	224.74
Sugar Loaf Mountain	129.2
Lake Reserve (valley tract on Whittington avenue) (approx.)	10.

These mountains are a part of the Ozark range and form the main inclosing spurs of the valley of Hot Springs settlement and waters. Of the mountain reserves enumerated, the first three only are immediately adjacent to the grounds of the hot water springs, and under the instructions of the Secretary of the Interior formed the extent of the surveys and plans in connection with the current improvement operations. The Lake Reserve was not surveyed in this work, but its improvement is contemplated in the accompanying estimates. Sugar Loaf Mountain is about 1½ miles to the northwest of the limits of the Hot Springs section, and does not seem at present to warrant the expenditure of public means towards its improvement.

Instructions inaugurating these improvements were given by the Secretary of the Interior under date of May 31, 1892. The allotments made available therefor consisted of $5,000 (appropriation for roads of March 3, 1891), and of $75,000 accrued from sale of public lots and lease receipts of Hot Springs, forming appropriation for protection and improvement of Hot Springs Reservation. (Act of Congress of March 3, 1877.)

The service required under the Secretary's instructions consisted of: first, the preparation of the plans and estimates for the improvement of the public grounds of Hot Springs Mountain, and West and North

mountains, by the construction thereon of parks, roads, walks, and other features of a health resort; and also for the greater development of the resources and bathing interests of Hot Springs by improvement of the method of supply and means of application of its waters; and second, the execution of these plans as far as they relate to the permanent reservation of Hot Springs Mountain, commencing on its foregrounds and advancing the work to the limits of present available means.

GENERAL METHOD OF PROCEDURE.

This involved: first, the thorough and accurate survey of the grounds, and the preparation of maps showing special details of topography as a basis for the landscape designs, as well as for the engineering and architectural plans; second, the preparation of these designs and general architectural plans; third, the elaboration of the architectural and engineering working plans of the several items, with specifications, and the organization and conduct of the work of execution.

PRELIMINARY SURVEYS.

The surveys were limited to those sections forming, or adjacent to, the grounds assigned for improvement. Work thereon commenced about June 16, 1892, on Hot Springs Mountain, and continued to the completion of the surveys of West and North mountains. The surveys were based upon the reference of azimuth angles, and were made by the sectionizing method, contours being located by instrument throughout. Degree of detail was graduated to the nature of the improvements contemplated in each section. The foreground was surveyed and mapped in 1 foot contours, and in detail to show actual landscape conditions as to location of trees, rocks, ledges, etc. The higher grounds were mapped in 3, 5, and 10 foot contours, with more general topographical details. Especial care was taken to show the exact location of springs and of permanent lines, building sites, etc. A number of corrections were found necessary in the lines established by former surveys, where in every case the magnetic needle seems to have been used. The main surveys were finished about November 1, 1892. Work in the map department and occasional finishing work in the field continued to March 1, 1893.

The designing of the proposed improvements involved engineer's, landscape artist's, and architect's work.

The plans of the engineering features, which included the roads walks, etc., formed the base lines of the entire work, and were laid out upon the maps before these were forwarded for the landscape outlines. For consultation and assistance in the preparation of the landscape plans the services of Mr. F. L. Olmstead, landscape architect, of Boston, Mass., were employed. Owing to inconveniences as to distance, and to unforeseen conditions which arose, this work was not carried out as had been at first contemplated. Composite landscape plans adapted to the actual features of the ground, however, were finally completed and filed under the approval of the Secretary of the Interior. These, in general outline, show the improvements required on all the different mountains. The architectural details as to entrance compositions, and other finished masonry, have been prepared for the work now in hand.

GENERAL SCHEME FOR IMPROVEMENT.

This assigns to each mountain a degree and method of improvement adapted to its special use with reference to the public interests of Hot Springs as a health resort, and, on the several mountains, the grounds were considered as divided into sections for improvement in each case as the location warranted. On Hot Springs and West mountains the general plans provide for roads and walks along the entire mountain sides, and for parks along the foreground. The main summit grounds are especially adapted to use for hotels and observatories under lease privileges. On North Mountain, which has less elevation than the other two, and is in the form of a long divide, the summit grounds are made the site of the main improvements, and the plan outlines, as a principal feature of these improvements, a mountain drive to connect with the drive of Hot Springs Mountain, and follow along the summit of North Mountain around to Park avenue, a distance of 1½ miles.

In submitting the papers connected with this service, the details of each mountain and other distinct section will be presented separately in the report and in the estimates.

A summarized estimate is also furnished showing, in condensed form, the reservation improvements which require further allotment, and enumerating them in the order of their importance among present public needs here. Separate divisions are also made to show, first, those immediately required; and, second, those of less importance and degree of urgency.

The accounts and estimates accompanying this report are as follows:

(1) Account of expenditures on the permanent reservation during the fiscal year 1892 and 1893.
(2) Estimate A. Hot Springs Mountain, tables 1 and 2.
(3) Estimate B. West Mountain.
(4) Estimate C. North Mountain.
(5) Estimate D. Lake Reserve.
(6) Estimate E. Creek arches in streets.
(7) Estimate F. Summarized estimates for further allotment.

An appendix of specifications for work performed under contract during the fiscal year 1892 and 1893 and photographic plan of mountain grounds are attached.

Hot Springs Mountain. (Estimate A.)

This is the southeastern mountain of the Hot Springs Valley group. It is formed by a spur projecting southward from the Ozark Range, and connects by a divide with North Mountain. It contains in its western side the entire active hot-water crater of the springs, no volcanic or lava formation having been found on the other mountains of the reservation. The plan of improvement for Hot Springs Mountain provides, first, for the construction of an architectural park along the bath houses at its base on Central avenue; second, for a system of natural park improvements on the next section of the ascending ground; third, for drives and walks reaching the summit by practical grades, and extending along the divide to connect with North Mountain. The interests which center in Hot Springs Mountain, and its waters, and its natural landscape features, as well as its proximity to the baths, rendered its improvement a matter of first consideration in the construction of recreation grounds here, and the current allotment was applied to the execution of the work on its foreground entirely.

DETAILS OF IMPROVEMENTS.

The work of improvements on this mountain involves two distinct divisions, as follows:

First, park improvement division, or those relating to the opening up of the mountain grounds for public benefit in connection with the waters.

Second, water supply division, or improvements pertaining to the development of the hot water supply and distribution.

The first involves a consideration of much importance to the public interests of Hot Springs, and one which has heretofore been entirely neglected. It requires special engineering construction, and should be advanced as far as possible while such work is in progress.

The second pertains to a department already in operating condition, but susceptible of further improvement. Provision for this class of construction and repairs seems to have been specially contemplated from the fund arising from water rents and general lease receipts. (Act of Congress, March 3, 1877, sections 4 and 14.) This classification relates especially to the administration of the superintendent of the reservation, and the estimates submitted were referred to him and accord with the results of a conference with him upon the subject. These two divisions will be reported upon separately, and will appear in the estimates in separate statements, as tables 1 and 2, respectively.

PARK IMPROVEMENTS.

(Table I in Estimate A.)

This classification will be subdivided to show, first, work of improvements already performed; second, work required and contemplated by the plans under current allotment; third, work necessary for the public interest but requiring further appropriation.

WORK PERFORMED.

In proceeding to the execution of the improvement plan, the different items were taken up in the order of their importance, the degree of finish graduating from decorative architectural designs on the front, through an intermediate class of work, up to the features of a natural park higher up on the mountain side.

Administration.—Two methods were adopted in the performance of the work. Construction which admitted of definite specifications in advance, as to nature and extent, were as a rule, awarded to contractors. This included construction of masonry work, concrete work, drainage, and laying water pipes, and in part, under a special appropriation, the grading and graveling of roads.

Continuous service, consisting of clearing of grounds and the main portion of the grading and road work, was reserved for performance by a day labor force under Government supervision.

IMPROVEMENT OPERATIONS.

Commencement of the work was made on the level ground extending in front of the reservation bath houses, and forming the proposed entrance or foreground park of Hot Springs Mountain Reserve. Operations have been extended up the front on Fountain street to monument 37, where a drive entrance is made to the reservation grounds. Improvements have also been carried up the foreground of the mountain

to about the elevation of the north gate of the Army and Navy General Hospital enclosure, where a massive masonry entrance to connect the two grounds is in course of construction by the War Department.

Central avenue front.—The front of the entire bath house park on Central and Reserve avenues, a distance of 1,613 feet, was curbed with sawed Alabama limestone, and along the same front was extended a concrete walk 14 feet wide, leaving a lawn border 9 feet wide between its outer edge and the curbing. By this construction the walk forms a promenade with rows of shade trees on each side. Elevated electric car landings 12 feet wide, and crossings, in concrete, from the streets to the bath houses were laid to complete the walks of this park. The earth filling over the entire ground was removed, a layer of rich loam soil was supplied in its place, and blue grass lawns made along the whole front.

Fountain street front.—A sandstone curbing of extra grade was set along the reservation front from the corner on Central avenue up to the entrance of the reservation drive from Fountain street, a distance of 1,459 feet. The sidewalk limits of 12 feet were excavated to grade. This work involved considerable expensive cutting away of earth and rock of a projecting bluff, and in extending the walk, a stone arch 30 feet long by 6 feet wide by 5 feet deep was constructed over the draining creek of the street.

Entrances and fountains.—The former method of allowing a number of openings for delivery of supplies along the front of the bath houses was discontinued, and only one drive entrance through the bath house park was provided for. This entrance is made to answer for supply roads along the rear of the bath houses, and for drives along the mountain side.

About three entrances are left along the mountain side, and one entrance for bath-house use in reaching the water supply valves. The main entrance is to be marked by massive white limestone columns, about 16 feet high, surmounted by bronze eagles 3 feet high and bearing inscription of "U. S. Hot Springs Reservation." A circular wall, forming an exedra with central drinking fountain, is to be built from the columns on each side of the entrance. The eagles were modeled by Edward Kemys, the well-known sculptor of animal figures. A balustrade and successive masonry stairways are to lead up the mountain side from the entrance columns to connect again with the main branch of the drive. Footway entrances on the front are to be finished less elaborately, but with stone steps and ornamental wing walls.

A massive stone drinking fountain, possibly with bronze figure, is planned for the south end of the reservation front, and a fountain of less elaborate design is to be placed at the north end of the same front. These fountains and the two at the central exedras are to be supplied with hot water from the springs of the lower level. A smaller fountain is also planned for a recess in the wall higher up the mountain. This is to be supplied from a spring recently discovered.

Roads.—The roads constructed up to date of this report consist of supply roads in the rear of the bath houses, both to north and south of the entrance, and of the drive along the mountain side to Fountain street, with the branch leading to the north entrance of the Army and Navy Hospital, a total distance of about a mile. Improvements along this front involved the main difficulties of about the whole undertaking to be accomplished in the development of the reservation. Road operations were complicated by the difficulty of running lines to conform to the special conditions of the foreground as to buildings and springs

to be avoided, and at the same time preserving easy grades. Excavation in the vicinity of the springs was avoided by carrying the lower drive on the outer bench of the tufa bluffs, and the upper drive completely above the level of the spring formation. The construction of these roads was attended with heavy embankment work and cuts in the earth and solid rock along almost their entire length. Considerable expense was also necessary in clearing away and arching over springs, to make way for the roads, and to prepare for the general improvement of the foreground of the mountain.

Drainage.—Ample drainage mains have been laid to connect with the creek arch and afford means of discharge for branch drains to be laid in the further progress of the work.

Masonry.—This consisted of retaining and parapet walls along the supply roads and drives, and stone bridges (to the number of about six) over waterway crossings. It comprised three classes of work, rubble, plain range, and ashlar, a standing contract being made for each, and the selection of different kinds of work being made with reference to requirements in each case.

Landscape work.—This involved grass planting of lawns and road embankments, and the planting of evergeen shrubs and trees, the laying out of natural walks &c. The planting was done in good season throughout and with success.

The close of the present operations will leave the principal feature of the front, entrances, fountains, &c., in a finished state, the main planting will have been done, and the roads and walks will have been completed in regular practical grades to an intermediate point on the mountain side. The continuation of the road from this point will form a simple and comparatively inexpensive construction of about equal excavation and embankment.

Remaining work planned for performance in the present operations and under current allotment.—This consists mainly of different masonry compositions, the construction of retaining and parapet walls for supply roads and drives, and of entrances, columns, exedras, and fountains; and the extension of the drive to a point above the hospital grounds, whence they can be ultimately continued by easy construction to the entire distance planned. Computed cost of these items is shown in the detailed estimates.

Work requiring further allotment.—This division of the work is shown separately in the estimates and includes the construction of some masonry compositions consisting of a white stone parapet wall for the protection of the front of the bath-house park, the construction of pavillions and other buildings on the intermediate grounds of the mountain, and the provision of electric lights along the drive and at main centers of improvement.

HOT WATER SUPPLY DIVISION.

This relates to construction and repairs of means of storage and supply for the hot water, and to the development and protection of the springs.

Cooling reservoir for the free bath house and fountains.—The free bath house has been operated without any supply of cooling water, and considerable difficulty has resulted in reducing the water to a practicable temperature for bathing. Cooling tanks for this bath house and to supply drinking water for the reservation are very much needed. Figures as to these tanks, constructed in range work masonry, with

brick and cement lining, are included among the items of the accompanying estimates.

Hot water springs.—The hot water springs issue from a space of 925 by 400 feet on the west side of the Hot Springs Mountain. The water in each spring can, by storage, be raised but a few feet above the level of the natural outlet it finds, the springs, apparently, being divided into groups supplied from disconnected internal reservoirs. Two main divisions may be enumerated, comprising—

First, the lower group of the springs flowing from the base of the bluff along Hot Springs Mountain. These furnish, by gravity, the main hot-water supply for the bath houses on the descending ground south from the Arlington site, and, by pumping, supply the Army and Navy General Hospital. Their average elevation is about 608 feet, not sufficient to reach the cooling tanks of the bath houses.

Second, the higher-level springs, comprising about four groups of different ranges of elevation, and supplying water for direct and for cooling purposes to all bath houses northward from the Arlington site; also hot water to several, and cooling water to all of those to the south from the same point. The highest spring has an elevation of about 688 feet above sea level, and the lowest of the same group about 620.85 feet. About ten springs of the upper group have been cleared out, walled, and arched. Improvement by walling and arching are especially necessary for the protection of the Alum and Old Hale Springs. The latter requires a storage reservoir. Other springs of each group could, to advantage, be protected with masonry, though in operating condition at present.

Reservoirs.—The water of the springs is distributed partly through storing reservoirs, and in part by direct connection with different bath houses. For distributing purposes by gravity on the reservation, two reservoirs are provided, one for the springs of the lower division and another for the highest group of the upper division. The lower reservoir has a capacity of about 31,000, the upper a capacity of about 17,100 gallons. Both are in effective condition, but show need of repairs, and could to much advantage be replaced by reservoirs of double the capacity. The elevation of the upper reservoir should be lowered 8 to 10 feet.

For general purposes of distribution by pumping an impounding reservoir has been constructed. This is situated at the southwest corner of the reservation, and collects water from all the main springs in use. It is 60 feet by 40 feet in surface and has a depth of 16½ feet below the overflow pipe. Its capacity is about 255,026 gallons.

West Mountain. (Estimate B.)

This is the southwestern mountain of the Hot Springs Valley group, and forms the west side of the valley, opposite Hot Springs and North Mountains. The elevation of its summit is about 996 feet above sea level. It borders three of the main avenues of the town, Central, Whittington, and Prospect, separating the two last named into parallel streets. Its commanding views, regular contours, and fine wooded grounds, as well as the extent of the foreground it presents along the main portion of Hot Springs Valley, would render its improvement a matter of considerable public advantage. The plans and estimates for this purpose have in view, first, the construction of a drive to connect the heads of Prospect and Whittington avenues by a course northward around the mountain-side, and of walks through the bordering grounds;

second, of the construction of parks and scattered shelter buildings along the route of this drive. Both Prospect and Whittington avenues have at their respective connections with the proposed drive an elevation considerably above Central avenue, and by a rising grade of no more than 4 per cent from each of its extremities to the north point of the mountain this drive would, as it circled that point, have an elevation overlooking the main valleys of the vicinity and at the same time would afford an attractive and practical drive in its grades throughout. Lateral connections between this drive and the main avenues could be made through the street openings to the mountain at different points, and from the highest point a drive with gradual ascent could be made to reach the top of the mountain.

The proposed drive would form a natural base for walks leading through the grounds on each side and for parks along its course. Three parks were planned for this mountain side, extending from about the vicinity of the north point southward to about Granite street. From the declivity of the mountain sides the parks were planned in terraces of about 100 feet each. Within the limits of the proposed main drive and parks the ground of the mountain is, to a considerable depth, formed of loose earth and rock, and in the construction of each about equal excavation and embankment would be involved. Both these improvements would, therefore, with the exception of several bridges on the south side of the mountain, be comparatively inexpensive work.

North Mountain. (Estimate C.)

North Mountain forms the northern mountain of this group enclosing the central Hot Springs Valley. It fronts on Central avenue opposite to the northern portion of West Mountain, and is in the form of two spurs, falling back and forming the steep sides of a valley about the middle of this foreground. The elevation of this mountain is about 50 feet less on the average than that of the other two mountains of the group. From its declivitous sides and the regular contour of its summit the improvement which seemed best adapted to its topography is the construction of a drive to follow along the summit and connect Hot Springs Mountain drive with different streets on Park avenue. A system of walks could be added connecting the drive with different points of the city streets, and leading through the grounds. Electric lights and park buildings could be added in time, and would complete the improvement as planned.

Lake Reserve (Estimate D.)

This is situated about the head of Whittington avenue valley lying west of West Mountain, and is in the form of a loop about 1,540 feet long by 282 feet in average width, with the long axis north and south, and is bordered on each side by a street formed by the separating of Whittington avenue into two branches. The conversion of this reserve into a lake park, as an improvement incidental to that of the main reservation, has been contemplated by the Department, and report thereon was, under the Secretary's instructions, previously rendered from this office, May 10, 1893. After investigation of the subject, the decision was rendered by the Secretary to confine the work under the present fund to the improvement of the grounds in the vicinity of the springs, and leave the matter of construction of the proposed lake

park to later consideration. In view of the reference of the matter, however, it has been deemed expedient to provide for this improvement among the accompanying estimates, by supplying data based upon a plan laid out from the city map. The plan thus supplied is probably more elaborate than that of the estimate upon which the bill was evidently based. The items are estimated in detail, and the total sum can be reduced by omitting those considered of least importance.

Creek Arches. (Estimate E.)

As a means of improving and protecting the main drainage of the valley, Hot Springs Creek, from Crystal street to Malvern avenue, has been walled and arched by the Government. This arch is 9 feet high by 18 feet wide. As a means of gaining room in the valley it might be decided to continue the arching of the tributaries of the creek on Park and Whittington avenues and on Fountain street. The cost of the first two arches is set forth in Estimate E, while that of the Fountain street arch is included among the items of Hot Springs Mountain. (Estimate A, Table I.)

INCIDENTAL IMPROVEMENTS.

OBSERVATORIES, CASINO BUILDINGS, AND MOUNTAIN HOTELS.

The summits of the reservation mountains have an elevation which places them somewhat without the limits recommended for elaborate park improvement by public means. They afford, however, considerable extent of regular and attractive ground, and the system of leases could be brought into good account, and made to aid the Government work and meet a public need by providing hotels, casinos, observatories, and parks on these high grounds.

Mountain railways located within the vicinity of the main improved grounds would be of much advantage in this connection.

PUBLIC BUILDINGS ON THE RESERVATION.

The question has been presented as to the location on the reservation, of an administration building, to contain the post-office and offices for the United States commissioner, marshal, etc. The location recommended for such a building would be at the southwest corner of the Hot Springs reserve, and the recent improvements have been planned to leave space for this purpose. It would add much to the improvement of the reservation park to place such a structure in front of the Government pump-house, which could be made into an annex, and the pump boilers used also for heating the main building.

HOT SPRINGS, ARK., AS A HEALTH RESORT.

In the preparation of the plans and data for the development of Hot Springs as a health resort the design has been, under the Secretary's instruction, to furnish a system of improvement appropriate to the nature and extent of the public interests involved, and to present for consideration in this connection the incidental questions bearing upon the subject.

The expenditures heretofore made by the Government on its interests at Hot Springs have been directed to the development of means for the operation of the bathing interests. These are now in effective condition, and the rapid extension of the useful field of its waters and the investment of capital from the most remote sources of the country, show the advancement made by Hot Springs toward taking the place accorded it by the Government as a national sanitarium. This progress, however, has been due to the result of the use of its waters, alone; the sanitary resources of its mountains are still undeveloped, and to this may be attributed the recognized growing tendency to regard Hot Springs as a winter resort only. This impression dates from recent years. Hot Springs in its natural surroundings had all the elements of a mountain resort. It is situated close under the shelter of the mountains which rise on every side to about 400 feet above its main valley, and from summit to foreground present continuous woods of elm, oak, pine, and other forest trees. The low temperature and mountain air of these heights afford advantages which naturally belong to Hot Springs, and would, in connection with the waters and the climate of the lower lands, complete its features as a health resort for all seasons. The impression referred to evidently grew as the interests of the city built up in the valley, and rows of buildings and excavated bluffs closed in the town and resort of Hot Springs from the wooded landscape of which it once formed part.

All free space in the valley has been gradually taken up by private improvements, leaving no ground available for purposes of public recreation in connection with the springs, except that within the Government lines.

Improvement of the public grounds of Hot Springs with a view to their application to the use for which they were reserved by the Government is, altogether, recommended as a means of developing the value of the Government property of the reservation, and at the same time of serving an important public interest in giving full scope to the sanitary agencies of the Hot Springs waters and climate.

I am, sir, very respectfully, your obedient servant,

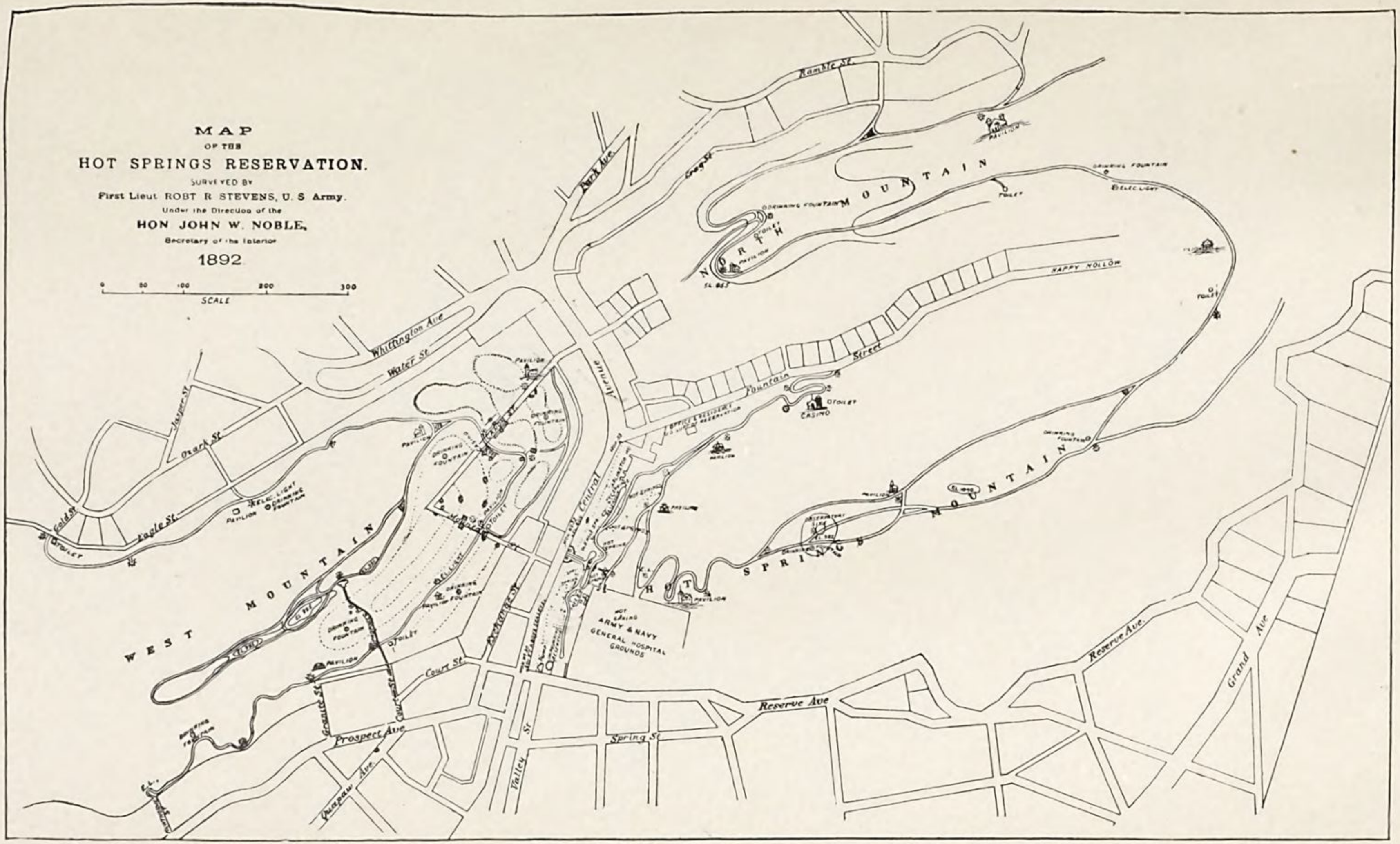
ROBT. R. STEVENS,
First Lieutenant Sixth Infantry, U. S. Army.
In charge of Hot Springs Reservation Improvements.

Hon. HOKE SMITH,
Secretary of the Interior, Washington, D. C.

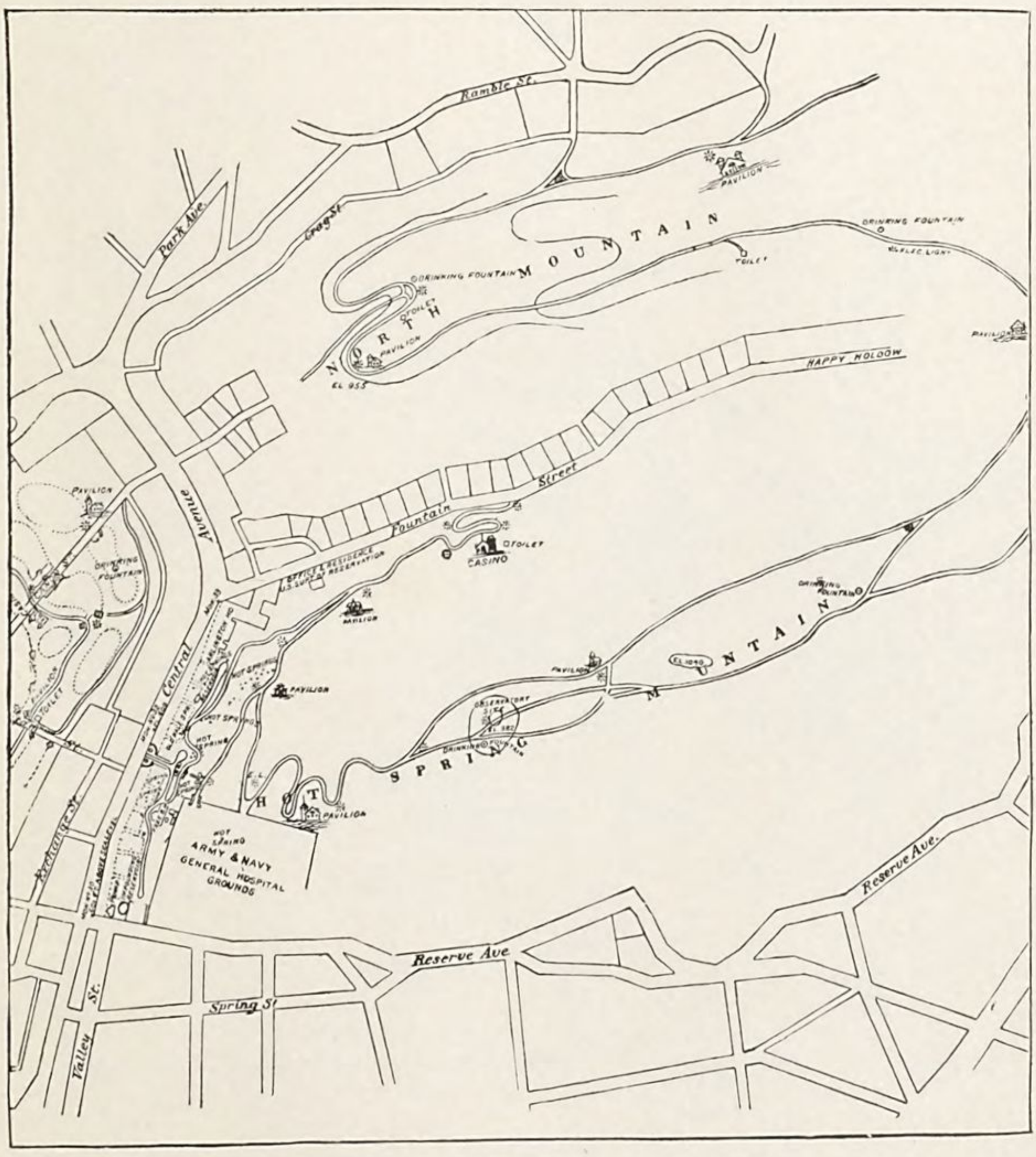
MAP
OF THE
HOT SPRINGS RESERVATION.

SURVEYED BY
First Lieut. ROBT. R. STEVENS, U. S. Army.
Under the Direction of the
HON. JOHN W. NOBLE,
Secretary of the Interior
1892

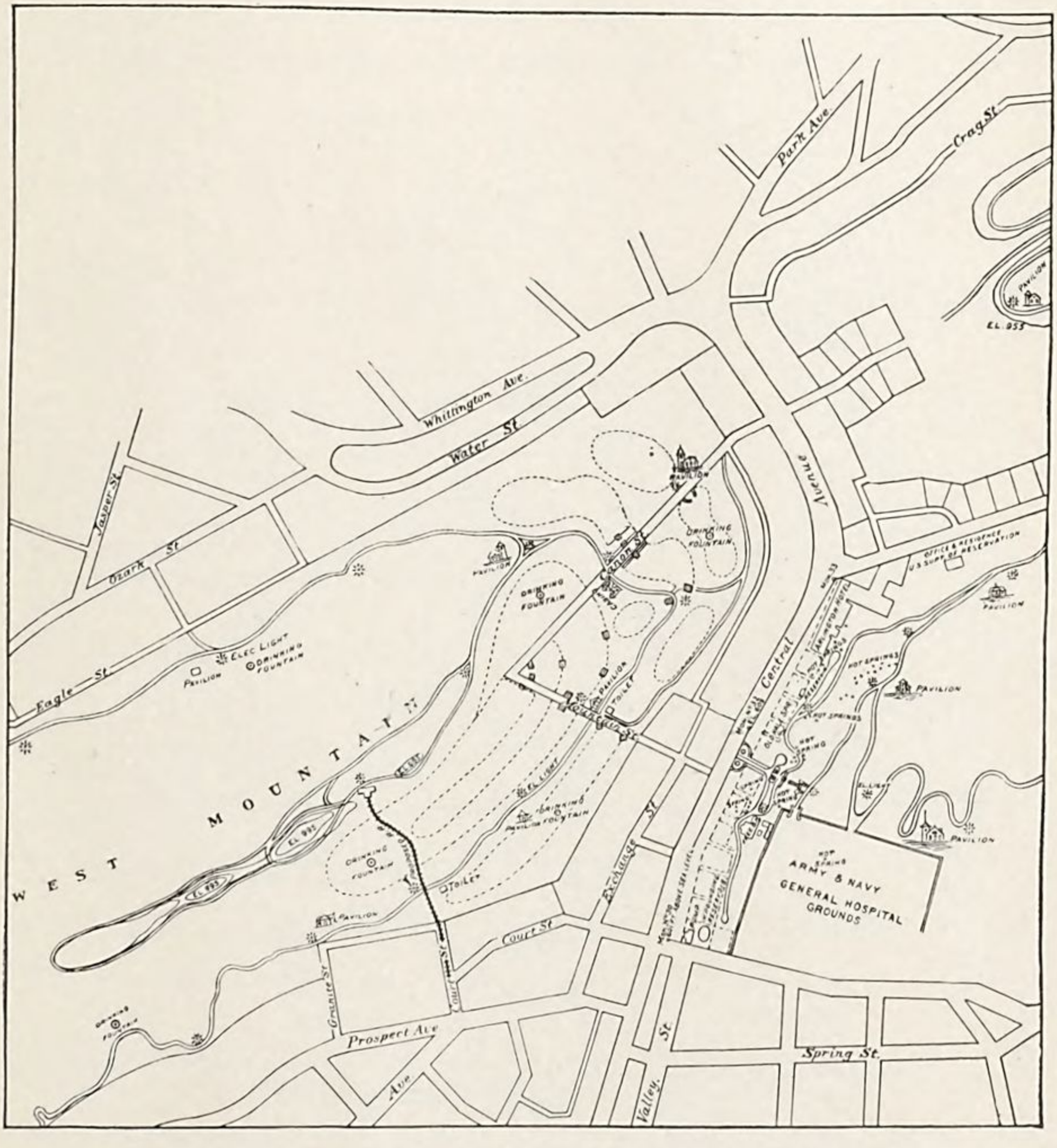
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MAP SHOWING IMPROVEMENTS ON NORTH MOUNTAIN, HOT SPRING MOUNTAIN, AND THE RESERVATION FRONT (BATH-HOUSE ROW) ON CENTRAL AVENUE, BETWEEN FOUNTAIN STREET AND RESERVE AVENUE.



MAP SHOWING PROPOSED IMPROVEMENTS ON WEST MOUNTAIN, ALSO VIEW OF BATH HOUSE SITES ON THE PERMANENT RESERVATION, AND LOCATION OF ARMY AND NAVY HOSPITAL.



Statement of fund for improvement of Government reservation, Hot Springs, Ark., fiscal year of 1892 and 1893.

[Account of appropriation of March 3, 1891, for parks and roads, Hot Springs Reservation.]

Amount of appropriation		$5,000.00
Expenditures:		
Embankment, 1,728.4 cubic yards, 75 cents per yard	$1,296.30	
Excavation (rock), $1.75 per yard, 720 cubic yards	1,260.00	
Excavation (earth), 2,021.5 cubic yards, at 60 cents per cubic yard	1,212.90	
Cement gravel, 1,379 cubic yards, at 84 cents per cubic yard	1,158.35	
Total		4,927.55
Balance available appropriation of March 3, 1891, parks and roads		72.45

[Account of allotment from indefinite appropriation for protection and improvement of Hot Springs Reservation (sales of lots and lease receipts, act of June 16, 1880).]

Amount of allotment	$75,000.00

EXPENDITURES.

Park improvements division:		
Surveying and map making, service and implements	$4,600.30	
Trees, shrubs, and grass seed	421.85	
Loam soil on bath-house front and mountain side	3,066.05	
Concrete surface on bath-house front park and superintendent's building, 11,500 square feet, at 20 cents per square foot	2,300.00	
Concrete surface on bath-house park front and superintendent's building, 8,595 square feet, at 18 cents per square foot	1.547.10	
Concrete border on bath-house park front and superintendent's building, 1,279 linear feet, at 2 cents per linear foot	25.58	
Limestone curbing on reservation park front, 1,613 linear feet, at $1.24 per linear foot	2,000.12	
Sandstone curbing on Fountain street, 950 linear feet, at 75 cents per foot	712.50	
Drainage:		
Catch-basins, tile-drains, etc	2,353.80	
Office expenses:		
Services, stationery, and furniture, etc	1,449.39	
Material, implements, and repairing of implements	1,046.25	
Advertising and printing	56.39	
Masonry, range-work walls:		
Retaining and parapet walls on roads and front of superintendent's building	885.34	
Masonry (rubble), foundations, bridges, retaining walls, etc.	1,810.76	
Excavation of Fountain street, 1,980 cubic yards of rock and earth	1,947.00	
Pay rolls, teams and men on road and park work	13,047.66	
Total park improvements		37,270.09
Hot water supply:		
Improvement of springs	1,511.51	
Transferring pipes, including trench excavation, etc	1,267.05	
Total hot water supply		2,778.56
Total expended indefinite appropriation for protection and improvement, Hot Springs Reservation		40,048.65
Balance available from indefinite appropriation for protection and improvement Hot Springs Reservation	34,951.35	
Balance available from appropriation parks and roads	72.45	
Total balance available for future operations and improvements		35,023.80

ESTIMATE A.—HOT SPRINGS MOUNTAIN (permanent reservation).

Detail estimate for complete improvement.

TABLE I.—PARK DIVISION—CONSTRUCTION OF DRIVES, WALKS, PARKS, BUILDINGS ETC.

[Improvements included in plans of work in progress and to be covered from balance of $35,023.80 on current allotment.]

Enumeration of items.	Value.
Concrete walks	$2,000.00
Loam soil for park purposes	307.00
Stone curbings for walks	381.75
Masonry walls, coping, etc	5,148.64
Columns and eagles (main entrance)	2,359.66
Landscape and building architects	1,012.59
Main entrance (plan)	8,000.00
Hot water fountains, pipes, etc	4,005.55
Entrance United States free bath house	754.00
Balustrade (main entrance)	1,800.00
3 exedras, walls, and seats	2,300.00
Entrance Ozark walls, etc.	497.89
25 iron rustic seats	200.00
Cement gravel for roads	1,572.45
Materials and implements	355.18
Drainage	574.78
Roads and parks	2,195.66
Office expenses	326.15
Engineering and landscape work	1,232.50
Total improvements to be performed in present work and provided for in current allotment	35,023.80

[Improvements in excess of current allotment reported for future appropriation.]

Enumeration of items.	Value.	Total.
Summit roads, connecting completed drives with North Mountain roads at head of Happy Hollow, 6,000 linear feet, 25 feet wide, with 6 stone culverts of 5-foot span each, construction, equal cut and fill:		
Excavation (earth), 7,200 cubic yards	$2,160.00	
Excavation (rock), 1,440 cubic yards	1,440.00	
Masonry (rock), 300 cubic yards	1,500.00	
Cement gravel, 16,666 square yards of 6-inch surfacing at 15 cents	2,499.90	
Total		$7,599.90
Gravel walks (800 linear feet, 5 feet wide and 6 inches deep of gravel):		
Excavation (earth), 800 cubic yards	240.00	
Cement gravel	703.95	
Total		943.95
2 cold water drinking fountains with pipe connections		2,000.00
4 shelter pavillions, $800 each	3,200.00	
3 toilet buildings, $1,500 each	4,500.00	
Total buildings		7,700.00
20 electric lights, $100 each	2,000.00	
100 iron rustic seats, $5 each	500.00	
Total lights and seats		2,500.00
Drainage:		
3,000 linear feet, 24-inch pipe, $2 per foot	6,000.00	
1,000 linear feet, 12-inch pipe, 60 cents per foot	600.00	
1,500 linear feet, 8-inch pipe, 40 cents per foot	600.00	
20 catch-basins, at $12 each	240.00	
Total		7,440.00
Limestone wall, front of Hot Springs Mountain Reservation, adjacent to Central avenue:		
1,475 linear feet, pitch-faced margin-draft wall, 2 feet high, 1.5 feet wide, 164 cubic yards, at $40 per cubic yard	6,560.00	
34 red granite pilasters, 2 feet square, 4 feet long, 544 cubic feet, $3 per cubic foot	1,632.00	
34 stone posts, red granite, 1 foot square, 3 feet long, 102 cubic feet, $3 per foot	306.00	
321 square feet stone, 8 inches thick, 95 cents per square foot	304.95	
1,475 linear feet coping (saddle back), 18 inches wide, 4 to 8 inches thick, at $1.65 per foo t	2,433.75	
321 linear feet coping, 12 inches wide, 4 to 6 inches thick, at $1 per linear foot	321.00	
Total		11,557.70

Detail estimate for complete improvement—Continued.

[Improvement in excess of current allotment reported for future appropriation—Continued.]

Enumeration of items.	Value.	Total.
Improvement of Fountain street:		
Grading, including sidewalk, 4,500 cubic yards (earth)	$1,500.00	
Excavation (rock) 500 cubic yards, at $1 per cubic yard	500.00	
Masonry, including walling and arching of creek, 2,640 linear feet stone arch, 10-foot span, with 4-foot retaining walls, 4,200 cubic yards, at $5 per cubic yard	21,000.00	
1,200 linear feet curbing (sidewalk), at 75 cents per linear foot	900.00	
1,600 square yards cement gravel, 6-inch layer at 15 cents per square yard	240.00	
Total		$24,140.00
One Casino building		30,000.00
Engineering and landscape work		4,000.00
Total requiring additional provision (Table 1), Park division, Hot Springs Mountain		97,881.55

TABLE 2.—WATER SUPPLY DIVISION.

Enumeration of items.	Value.	Total.
Items recommended for immediate performance.		
Bath house cooling tanks:		
Excavation, 75 cubic yards, at $1.75 per yard	$131.25	
Masonry (range work) 262 cubic yards, at $7 per cubic yard	1,834.00	
Brick lining, 15,600 bricks, at $18.90 per M	294.84	
Concrete bottoms, 1,168 square feet, 24 cents per square foot	280.32	
Plastering sides, 968 square feet, 18 cents per foot	174.24	
Coping of walls, 195 feet, at $2.20 per foot	429.00	
Roof framing, 14.5 squares, at $6 per square	87.00	
Spanish tile roof, 20 squares, at $25 per square	500.00	
Total		$3,730.65
Old Hale Spring:		
Excavation, 60 cubic yards, at $2 per yard	120.00	
Masonry (range work), 80 cubic yards, at $7 per yard	560.00	
Brick arches laid in Portland cement, 16,000 brick, at $18.90 per M	302.40	
Concrete floor (extra), 440 square feet, at 24 cents per foot	105.60	
Cement plaster (side walls), 892.5 square feet, at 24 cents per square foot	214.20	
Total		1,302.20
Protecting wall at bath house site No. 1:		
Excavation, 80 cubic yards slate rock, at $2 per yard	160.00	
Moving 73 cubic yards material, at 30 cents per cubic yard	21.90	
Masonry (rubble) 131 cubic yards, at $5 per yard	655.00	
Iron braces for neighboring wall of A. & N. general hospital	20.00	
Total		856.90
Alum Spring:		
Excavation (earth)	32.62	
Masonry (stone), 26.25 cubic yards	97.12	
Masonry (brick), 2,274 bricks, at $18.90 per M	61.87	
Arch centers:	6.00	
Total		197.61
Protection of pipe trench in rear of Maurice and Palace bath house:		
200 feet brick walls, 1,000, at $15 per 1,000	150.00	
332 square feet of rough lumber, $10 per M	3.32	
600 square feet matched flooring for roof, $22 per M	13.20	
Carpenter's labor	4.00	
Metalic paint for same	8.00	
Total		178.52
Cleaning out and protecting by side walls and arches 8 hot springs		2,778.56
Bath house water closets:		
Excavation, 4 cubic yards, at $1.75 per yard	7.00	
Masonry (range work), 48 cubic yards, $7 per yard	336.00	
Roof framing, 2 squares, at $6 per square	12.00	
Spanish tile roof, 2 squares, at $25 per square	50.00	
Concrete floor and filling, 150 square feet, at 20 cents per square foot	30.00	
Plumbing for buildings	240.00	
Total		675.00
Total pertaining to present need hot water supply (Table 2)		9,719.44

TABLE 2.—WATER SUPPLY DIVISION—Continued.

Enumeration of items.	Value.	Total.
Items of less immediate need (contingencies).		
Hot-water reservoir at highest level into which water from upper springs will flow by gravity:		
Brick reservoir, 40 feet long, 23 feet wide, 6 feet deep, 105,500 bricks, at $20 per M	$2,110.00	
Iron pipes for connection and discharge, including labor of laying	500.00	
Total		$2,610.00
Hot-water reservoir at lower level for other springs, 50 feet long, 27 feet wide, 6 feet deep, 132,500 bricks, at $20 per M	2,650.00	
Iron pipes for connection and discharge, including labor of laying	500.00	
Total		3,150.00
Tunnel for hot water pipes on bath-house front, 5 feet wide, 6 feet high, and 1,450 feet long, requiring for construction:		
Excavation, 3,570 cubic yards, at 75 cents per yard	2,677.50	
Bricks, 656,850, laid at $20 per M	13,137.00	
Removing and relaying hot-water-pipes for bath-house connections	3,000.00	
Total		18,814.50
Total contingent items		24,574.50
Total Table 2, Water Supply Division		34,293.94
Total for additional provision Hot Spring Mountain (Tables 1 and 2)		132,175.94

ESTIMATE B.—WEST MOUNTAIN.

Detail estimates for complete improvement.

CONSTRUCTION OF DRIVES, WALKS, PARKS, BUILDINGS, ETC.

Enumeration of items.	Value.	Total.
Roads, 10,000 linear feet, 25 feet wide, with 15 stone culverts of 5-foot span, construction equal cut and fill:		
Excavation (earth), 12,000 cubic yards, at 30 cents per cubic yard	$3,600.00	
Excavation (rock), 2,400 cubic yards, at $1 per cubic yard	2,400.00	
Masonry (rock), 750 cubic yards, at $5 per cubic yard	3,750.00	
Cement gravel (road), 27,778 square yards of 6 inch surfacing, at 15 cents per square yard	4,166.70	
Total		$13,916.70
Gravel walks, 10,560 linear feet, 5 feet wide:		
Excavation (earth), 1,000 cubic yards	300.00	
Cement gravel, 5,866 square yards of 6 inch surfacing, at 15 cents per square yard	879.90	
Total		1,179.90
Park construction, terrace walls from Court to Canon streets:		
5,000 linear feet, 3,000 cubic yards, at $5 per cubic yard of masonry	15,000.00	
5,000 feet coping for walls, at $1.25 per linear foot	6,250.00	
Excavation (earth), 21,666 cubic yards, at 30 cents per cubic yard	6,499.80	
Loam soil for park purposes, 50,000 square yards, at 30 cents per square yard, 8-inch layer	15,000.00	
6 fountains with water supply, at $800 each	4,800.00	
Landscape and ornamental masonry, including 5 stairways of limestone	12,000.00	
125 rustic seats, $5 each	625.00	
40 electric arc lights (city dynamo), at $100 each	4,000.00	
Total		64,174.80
Buildings, etc.:		
6 pavilions, stone foundations and columns, wooden roofs, $800 each	4,800.00	
4 toilet houses, water and sewer connections, at $1,500 each	6,000.00	
1 casino building	30,000.00	
Total		40,800.00
Drainage, 2,500 linear feet, 2 feet pipe, glazed tiling, at $2 per foot	5,000.00	
1,000 feet 1-foot pipe, 60 cents per foot	600.00	
30 catch-basins, at $12 each	360.00	
Contingent expenses	5,000.00	
Total		10,960.00
Total estimate for West Mountain		131,031.40

ESTIMATE C.—NORTH MOUNTAIN.

Detailed estimate for complete improvement.

CONSTRUCTION OF DRIVES, WALKS, FOUNTAINS, BUILDINGS, ETC.

Enumeration of items.	Value.	Total.
Roadways, 7,920 linear feet, 25 feet wide, with 8 stone culverts 5-foot span, construction equal cut and fill:		
Excavation (earth), 11,250 cubic yards	$3,375.00	
Excavation (rock), 2,250 cubic yards	2,250.00	
Masonry (rock), 525 cubic yards	2,625.00	
Cement gravel road, 22,000 square yards of 6 inch surfacing, at 15 cents per square yard	3,300.00	
Total		$11,550.00
Gravel walks, 5,280 linear feet, 5 feet wide, 6-inch depth, cement gravel:		
Excavation (earth), 500 cubic yards	150.00	
Cement gravel, 2,935 square yards	440.25	
Total		590.25
2 cold-water drinking fountains, with pipe connections		2,000.00
3 shelter pavillions, with stone columns and wooden roofs, at $800 each		2,400.00
2 toilet houses with water and sewer connections, $1,500 each		3,000.00
10 iron rustic seats, $5 each	50.00	
10 arc lights (city dynamo), $100 each	1,000.00	
Total lights and seats		1,050.00
Drainage:		
1,000 linear feet 2-foot tiling	2,000.00	
600 linear feet 1-foot tiling	360.00	
15 catch basins, $12 each	180.00	
Contingent expenses	2,300.00	
Total		4,840.00
Total estimate, North Mountain		25,430.25

ESTIMATE D.—LAKE RESERVE.

Detail estimate for complete improvements.

CONSTRUCTION OF LAKES, ROADS, WALKS, PARKS, BUILDINGS, ETC.

Enumeration of items.	Value.	Total.
Lakes—Four artificial lakes, with an area of 226,550 squarefeet, depth 5 feet:		
Excavation of 30,000 cubic yards, at 30 cents per yard	$9,000.00	
Excavation of water way connecting lakes, 1,600 cubic yards, at 30 cents per yard	480.00	
Roads:		
Total		$9,480.00
2,640 linear feet of roads, 30 feet wide, grading and shaping same, 300 cubic yards, at $1 per yard	300.00	
Cement gravel for roads, 6 inches in depth, 8,800 square yards, at 15 cents per yard	1,320.00	
Total		1,620.00
Walks—5,280 linear feet, 5 feet wide:		
Grading and shaping, 200 cubic yards, at $1 per yard	200.00	
Cement gravel for same, 3,000 square yards, at 15 cents per yard	450.00	
Parks:		650.00
Loam soil, 23,750 square yards, 30 cents per yard, 8-inch layer	7,125.00	
Landscape work, shrubbery, etc	1,000.00	
Total		8,125.00
Buildings:		
5 shelter pavilions, $800 each	4,000.00	
5 toilet houses, water and sewer pipe connections, $1,500 each	7.500.00	
Total		11,500.00
Masonry:		
2,800 linear feet of retaining walls, for water ways connecting lakes, rubble masonry, 623 cubic yards, at $5 per yard	3,115.00	
5 stone bridges over water ways, 65 cubic yards, at $7 per yard	455.00	
16 limestone columns at entrances of roadways, at $360 each	5,760.00	
2,500 linear feet coping for retaining walls, at 75 cents per foot	1,875.00	
Total		11,205.00
22 electric arc lights (complete), at $100 each		2,200.00
Contingent expenses, engineering, etc		4,000.00
Total estimate for lake reserve		48,780.00

ESTIMATE E.—CREEK ARCHES.

Hot Springs Creek.

Enumeration of items.	Value.
Arch on Whittington avenue, 1,600 feet in length; masonry (rubble) 3,200 feet; side walls, 4 by 2.811 feet; 1,600 feet arch, 1.5 by 15 feet:	
2,666 cubic yards masonry, at $5 per yard	$13,330.00
Park avenue arch, 800 feet long; 1,600 feet side walls, 4 by 2.8111 feet; 800 linear feet arch, 1.5 by 15 feet:	
1,333 cubic yards masonry (rubble), at $5 per yard	6,665.00
Total for creek arches	19,995.00

ESTIMATE F.—SUMMARIZED ESTIMATE.

Improvements required on the Government reservation at Hot Springs, Ark., and to be provided for by future allotment or appropriation, enumerated in order as recommended for execution.

IMPROVEMENTS SPECIALLY RECOMMENDED FOR EARLY PROVISION.

Enumeration of items.	Value.	Total.
I.—*Hot water supply.*		
Five bath-house cooling tanks	$3,730.65	
Old Hale spring	1,302.20	
Protecting wall, bath-house site No. 1	856.90	
Alum spring	197.61	
Protection of pipe trench	178.52	
Bath-house water closets	675.00	
Protecting eight hot springs	2,778.56	
Total to be specially allotted from hot-water fund	.....	$9,719.44
II.—*Park improvements.*		
Hot Springs Mountain:		
Summit roads	7,599.90	
Gravel walks	943.95	
Drainage	7,440.00	
Fountains (cold water)	2,000.00	
Fountain street (except masonry)	3,140.00	
Pavilions	3,200,00	
Toilet buildings	4,500.00	
Electric lights	2,500.00	
Contingent expenses	4,000.00	
Total	.....	35,323.85
West Mountain:		
Roads	13,916.70	
Walks (gravel)	1,179.90	
Drainage	5,960.00	
Pavilions	1,600.00	
Toilet buildings	3,000.00	
Electric lights	4,000.00	
Contingent expenses (engineering, etc.)	3,000.00	
Total	.....	32,656.60
North Mountain:		
Roads	11,550.00	
Contingent expenses	1,150.00	
Total	.....	12,700.00
Total for park improvements (immediate provision)	.....	80,680.45
Total reservation improvements (immediate provision)	.....	90,399.89

Improvements required on the Government reservation at Hot Springs, Ark., etc.—Cont'd.

IMPROVEMENTS REQUIRED, BUT OF LESS IMMEDIATE NECESSITY.

Enumeration of items.	Value.	Total.
Lake reserve:		
Artificial lakes	$9,480.00	
Roads	1,620.00	
Walks	650.00	
Parks	8,125.00	
Buildings	11,500.00	
Masonry	11,205.00	
Electric lights	2,200.00	
Contingent expenses (engineering, etc.)	4,000.00	
Total	.....	$18,780.00
Hot Springs Mountain:		
Protecting wall along reservation front	11,557.70	
Fountain street creek arch	21,000.00	
One casino building	30,000.00	
Total	.....	62,557.70
West Mountain:		
Excavation (earth), 21,666 cubic yards at 30 cents	6,499.80	
Masonry (terrace walls)	15,000.00	
Coping for same	6,250.00	
Loam soil for park purposes	15,000.00	
Landscape and ornamental masonry	12,000.00	
Fountains	4,800.00	
Pavilions	3,200.00	
Toilet houses	3,000.00	
Rustic seats	625.00	
Contingent expenses (engineering, etc.)	2,000,00	
One casino building	30,000.00	
Total	.....	98,374.80
North Mountain:		
Walks	590.25	
Fountains	2,000.00	
Pavilions	2,400.00	
Toilet houses	3,000.00	
Electric lights	1,000.00	
Drainage	2,540.00	
Rustic seats	50.00	
Contingent expenses	1,150.00	
Total	.....	12,730.25
Hot-water supply:		
Hot-water reservoirs, 40 by 23 by 6 feet, for upper springs	2,610.00	
Hot-water reservoir, 50 by 27 by 6 feet, for lower springs	3,150.00	
Tunnel for hot-water pipes along bath-house front	18,814.50	
Total	.....	24,574.50
Creek arches:		
Masonry (rubble) arching creek on Whittington avenue	13,330.00	
Masonry (rubble) arching creek on Park avenue	6,665.00	
Total	.....	19,995.00
Total improvements for future development	.....	267,012.25
Total improvements immediately required	.....	90,399.89
Total of all improvements requiring future allotment	.....	357,412.14

Respectfully submitted.

ROBT. R. STEVENS,
1st Lieut., 6th Infantry, U. S. A.,
In charge Hot Springs Reservation Improvements.

Hon. HOKE SMITH,
Secretary of the Interior.

APPENDIX

TO

REPORT OF OFFICER IN CHARGE OF HOT SPRINGS RESERVATION IMPROVEMENTS, HOT SPRINGS, ARK.

Specifications for contract work, as follows: For excavation, embankment, graveling, asphalt, stone and concrete pavements, granite crossings, coping, drainage, lawn curb or base stone, entrance parapet wall, walls, entrance walls, stone steps, catch basins, cooling tanks, masonry columns, grass seed, loam soil, bronze devices, medallions, parapet and retaining walls, pipes for fountains, plants, etc., removal and rearrangement of exposed pipes.

HOT SPRINGS, ARK., *June* 30, 1893.

INTERIOR DEPARTMENT,
Hot Springs, Ark., June 4, 1892.

Specifications for material and labor required in the construction of public roads on the Government Reservation, Hot Springs, Arkansas, as authorized and required by the Secretary of the Interior, according to advertisement of this date, the work to be done under the direction of First Lieut. Robt. R. Stevens, Sixth Infantry, in charge of Hot Springs Improvements.

GENERAL CONDITIONS.

The work is to be executed under the direction and in conformity with the instructions of the officer in charge acting under the authority of the Secretary of the Interior, and both workmanship and material shall be subject to the inspection, acceptance, or rejection of said officer. The work must be executed in a prompt and workmanlike manner and the materials used be the best of their several kinds.

The contractors will be responsible for any damage to Reservation buildings, walls, improved grounds, or system of pipes incidental to the performance of the work required under his contract, and will restore to their original condition any portion of the same which may have been removed for temporary purposes or damaged during the progress of said work.

EXCAVATION AND EMBANKMENT

Will extend along the face of Hot Springs Mountain at a level within 70 feet above the corresponding grade of Central avenue, and on the line of the road to be marked in advance with line and level stakes by the Government engineers. The site of work will be cleared of trees, stumps, brush, or other obstacles by the Government.

The material of both excavation and embankment work will be deposited as directed with reference to general grading purposes, but the actual grading of roads and shaping of slopes will be performed by the Government.

EXCAVATION

Will include the deposit of the excavated material when the distance of its transportation is not over 100 feet horizontally nor 15 feet vertically; beyond that distance of "trip" it is counted also as embankment and paid for at the contract rates on that item. Excavation will be classified as earth, loose rock, and solid rock. Solid rock is rock unloosed from its natural stratum and which is generally removed by blasting. Loose rock is all other rock not adapted to loading with the shovel. Earth is all other material excavated. No excavation on Hot Springs Mountain at any point will extend to a greater depth than three feet below the surface or grade of ground at that point. No blasting will be allowed on the site.

EMBANKMENT

Will be any embankment in excess of excavation and borrowed, and will be supplied from some point without the Reservation, except when it arises from excess of the excavation performed under the contract.

QUANTITIES.

The estimated quantities of the work under these divisions will be as follows:

	Cubic Yards.
Excavation:	
Solid rock (sandstone, etc.)	300
Solid tufa (Hot Springs Mountain)	600
Loose rock	150
Earth	3,000
Embankment:	
Loose dimension rock	400
Earth	800

Bids will state rates per cubic yard for each of the items above mentioned; the contractor to furnish all labor, material and appliances for the work except when otherwise expressly stipulated in the specifications.

NATURAL CEMENT GRAVEL.

The gravel supplied shall be of the best grade of material, equal to the Whittington avenue cement gravel. It shall be free from clay-stone or other ingredients likely to grind into dust; shall show no soil, and, as taken from the pit, shall have the cementing material well distributed through the gravel-stones, which shall not exceed one cubic inch in size. Each bidder will state the gravel bed from which he proposes to supply material, and all material should be equal and similar to the sample at the office of the officer in charge of the improvements. And if at any time during the progress of the work the material delivered by the contractor is found to be inferior to the standard sample, such defective material shall be at once removed by the contractor and replaced with satisfactory material by him. Deliveries shall be made in quantities as required, and at points along the Hot Springs Mountain not over 50 feet above the grade of the street. The wagon approach to be along the proposed road as prepared for graveling. Scattering and grading will be done by the Government. The estimated quantity to be supplied is 3,000 cubic yards. Bids to state rate per cubic yard delivered.

ASPHALT, ARTIFICIAL STONE, AND CONCRETE PAVEMENTS.

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INSTRUCTIONS TO BIDDERS.

Bids must be prepared in accordance with the general instructions, printed on forms of proposals furnished, and must be accompanied with a written guarantee in the sum of five hundred ($500) dollars (except in cases where the probable amount of contract will not exceed $500, in which case a guarantee of but $100 will be required), signed by two responsible persons, to the effect that they undertake that the bidder, if his bid is accepted, will, within ten days after being notified of the acceptance of his proposal, enter into contract and give bond in one-fifth of the probable amount of the contract, with good and sufficient sureties to perform the work proposed. Proposals will be received for any distinct portion of the work to be performed. Each item of a bid will be considered separately, and award may be made for the whole of the work proposed or independently for any of the following items:

Asphalt pavement, heavy roadway.
Asphalt pavement, or concrete lighter for walks.
Excavation of earth, loose rock.
Excavation of solid rock (sandstone, etc.).
Excavation of tufa rock.
Embankment of earth.

Payment will be made at the close of each month upon measurement of the work performed and accepted, or upon the completion of any portion of the work accepted.

All quantities, as specified herein, shall be subject to an increase or diminution of 20 per cent should the public interest require such change.

One copy of the advertisement and of these specifications should be securely attached to each copy of proposal.

ROBERT R. STEVENS.
1st Lieutenant, 6th Infantry, in charge of Hot Springs Improvement.

Appendix to specifications of June 4, 1892, for construction of roads on Government Reservation at Hot Springs, Ark.

STANDARD OF REFERENCE AS TO CONSTRUCTION OF ASPHALT, ARTIFICIAL STONE, OR CONCRETE PAVEMENT.

The wearing surface of the driveways shall be a compressed asphalt pavement, laid in monolithic or in block form, and may be constructed either with the natural bituminous limestone, like that of the Val de Travers or the Seyssel mines as a standard, or with suitable composition material made of other standard asphalts combined in proper proportions.

Monolithic composition asphalt pavement will be two and one-half inches in thickness when compacted, with a base of hydraulic cement concrete six inches in depth, and shall be as follows:

Upon the foundation prepared will be laid a bed of hydraulic cement concrete six inches in thickness, to be made as follows:

One measure of hydraulic cement and two of clean, sharp, washed sand, free from clay, will be thoroughly mixed dry and made into mortar with the least possible amount of water; broken stone of acceptable dimensions and character, thoroughly cleaned from dust and dirt, drenched with water, but containing no loose water in the heap, will be incorporated immediately with the mortar in such quantities as will give a surplus of mortar when rammed. This proportion, when ascertained, will be regulated by measure. Each batch of concrete will be thoroughly mixed, the mixing being continued on the board until each piece of stone or brick is completely covered with mortar; it will then be spread, and at once thoroughly compacted by ramming until free mortar appears upon the surface. The whole operation of mixing and laying each batch will be performed as expeditiously as possible with the use of a sufficient number of skilled men. No gravel will be used in the concrete, but only fragments of stone having rough faces obtained by fracture, and measuring not more than one-half inch in their largest dimensions. The upper surface of the base will be made parallel with the crown of the pavement to be laid, and will be suitably protected from the action of the sun and wind until set.

The cement used must conform to the standard proof tests, which shall be made under the direction of the officer in charge of the work, and shall in no case be used until such tests have been made.

A sample sufficient for test shall be furnished from each barrel.

Where made by the artificial combination of an asphalt matrix and a body material the wearing surface shall be composed of:

1. Refined Trinidad or other acceptable asphaltum.
2. Heavy petroleum residuum oil.
3. Fine sand, containing not more than 5 per cent of loam or clay.
4. Fine stone-dust.
5. Fine powder of carbonate of lime.

The asphaltum must be refined under the direction and to the satisfaction of the officer in charge. The asphaltum must not be inferior in any respect to the standard, as shown by its chemical composition and physical characteristics.

The residuum oil must be free from coke or excess of light oil or hard paraffine, and of a specific gravity of from 18 to 22 degrees Baume, and withstand a fire test of 250 degrees F.

The refined asphaltum and residuum oil will be mixed in the following proportion by weight with Trinidad asphalt: asphalt, parts 100; petroleum, parts from 17 to 20.

Samples of asphalt cement shall be furnished daily to the inspector in suitable tin boxes from the dipping kettles and from the oiling stills.

The proportion of mixture for other asphalts will be determined by their chemical compositions.

The asphaltic cement, made in the manner above described, will be mixed with other materials in the following proportion by weight, viz: asphaltic cement, from 13 to 16; sand, from 63 to 58; stone-dust, from 28 to 23; pulverized carbonate of lime, from 3 to 5.

The exact proportions of materials used will depend upon their character, and will be determined by the officer in charge, but the percentage of bitumen in any mixture soluble in carbon bisulphide shall not exceed the limits, 9 to 11 per cent. If the proportions of the mixture are varied in any manner from these specifications, the mixture will be condemned; its use will not be permitted, and if already placed on the streets it will be removed and replaced by proper material at the expense of the contractor.

The mixture of sand and stone-dust and the asphaltic cement will be heated separately to about 300 degrees F. The pulverized carbonate of lime, while cold, will be mixed with the hot sand in the required proportions and then mixed with asphaltic cement at the required temperature and in the proper proportion in a suitable apparatus, so as to affect a thoroughly homogeneous mixture. Sand boxes and tar and asphalt gauges will be weighed in presence of inspectors as often as may be desired.

The pavement mixture prepared in a manner thus indicated will be laid on the foundation in two coats. The first coat, called cushion coat, will contain from one to two per cent more asphaltic cement than given above; it will be laid to such a depth as will give a thickness of one inch after being consolidated by a roller. The second coat, called surface coat, prepared as above specified, will be laid on the cushion coat; it will be brought to the ground in carts at a temperature not less than 250 degrees F., and if the temperature of the air is less than 50 degrees the contractor must provide canvas covers for use in transit. It will be carefully spread by means of hot iron rakes in such manner as to give uniform and regular grade, and to such depth that, after having received its ultimate compression of two-fifths, it will have a net thickness of two inches. This depth will be constantly tested by means of gauges furnished by the officer in charge of the work. The surface will then be compressed by means of hand rollers, after which a small

amount of hydraulic cement will be swept over it, and it will then be thoroughly compressed by a steam roller weighing not less than 250 pounds to the inch run, the rolling being continued for not less than five hours for every 1,000 yards of surface.

All materials used, as well as the plant and methods of manufacture, will be subject to the inspection and approval of the officer in charge of the work.

The degrees of fineness, both of sand, stone-dust, and powdered limestone, will be determined by testing with screens, as follows: The powdered carbonate of lime will be of such degree of fineness that 16 per cent by weight shall be an impalpable powder of limestone, and the whole of it shall pass a No. 26 screen. The sand shall be of such size that not more than 50 per cent of it will pass through a No. 80 screen.

The broken stone, or stone-dust, shall be the residue from the crushing of stone from the base and binder which passes a sieve of not more than six meshes to the inch.

Gutters, wherever directed, will be granite block or brick of such width as may be directed, laid upon a hydraulic base of not less than four inches in thickness, in accordance with specifications for granite-block pavement.

In case the natural Val de Travers or Seyssel bituminous limestone is used, the thickness of the pavement as specified may be reduced to 1½ inches for wearing surface, laid in a concrete bed 4 inches thick, prepared as directed in the preceding case, except that Portland cement shall be required as the binding matrix of the concrete.

Bids on Asphalt-block pavement should be based on the following requirements:

(1) The size of the blocks will be four by five by twelve inches, and a variation of one-fourth of an inch from these dimensions will be sufficient grounds for rejecting any block.

(2) The blocks will be composed of paving cement 8 to 12, crushed limestone 92 to 88.

The paving cement shall be of a quality in character equivalent to that prescribed for standard asphalt pavement.

The petroleum must be freed from all impurities and brought to a specific gravity of from 18 degrees to 22 degrees Baume, and a fire test of 250 degrees F. The right is reserved to inspect the manufacture of the blocks and the preparation of the cement at any time. All bids must be accompanied by a specimen block of the size and quality described in these specifications, labeled with the name of the bidder and the locality of the factory; bids not accompanied by specimen blocks will not be accepted.

The block will be tested by such method as the officer in charge of the work may prescribe, and all blocks furnished will be subject to test and approval.

(3) Upon the foundation prepared by the Government is to be laid a bed of fine bank gravel, to be screened from all pebbles, measuring more than 1½ inches in their largest dimensions, 5 inches thick when compacted by rolling and ramming. Upon this will be laid a bed of fine sharp sand, washed and dried, two inches in thickness, to serve as a bed for the blocks, which will be laid directly upon and imbedded in it with close joints. Special care will be observed to make the surface of this bed of sand exactly parallel to the surface of the pavement when completed. The blocks must be laid by the pavers standing or kneeling upon the blocks already laid, and not upon the bed or sand.

(4) The blocks are to be laid diagonally with the line of the street or at right angles, and with such crown as the officer in charge may direct; each course to be of blocks of an uniform width and depth, and so laid that all longitudinal joints shall be broken by a lap of at least four inches. Each course of blocks will be driven against the course preceding it by a heavy mall, in order to make the lateral joints as tight as possible, and the longitudinal joints will be closed by pressing each course in the direction of its length by a lever. When thus laid the blocks will be immediately covered with clean fine sand, entirely free from any loam or earthy matter, perfectly dry, and screened through a sieve or screen having not less than twenty meshes to the inch. The blocks will then be carefully rammed by placing a plank over several courses and ramming the plank with a heavy rammer.

The ramming will be continued until the blocks reach a firm, unyielding bed and present a uniform surface, with proper grade and crown. Any lack of uniformity in the surface must be corrected by taking up and relaying the blocks. When the ramming is complete a sufficient amount of fine dry sand, as above described, will be spread over the surface and swept or raked into the joints.

Asphalt sidewalks.

(1) The asphalt sidewalk will be one inch thick when compacted, with a base of hydraulic cement concrete three inches in depth.

(2) The space over which the pavement is to be laid will be excavated to the depth of four inches below the surface of the proposed pavement, when thoroughly compacted by rolling or ramming; any objectionable or unsuitable material below the bed will be removed and the space filled with clean gravel or sand. Care must

be taken in excavating to preserve the proper slope parallel with the surface of the pavement.

(3) Upon the foundation prepared by the Government will be laid a bed of hydraulic cement concrete three inches in thickness, to be made as follows: one measure of cement and two of clean, sharp, washed sand, free from clay, will be thoroughly mixed dry and made into a mortar with the least possible amount of water; broken stone, not exceeding 1½ inches in their largest dimensions, thoroughly cleaned from dust and dirt, drenched with water, but containing no loose water in the heap, will be incorporated immediately with the water in such quantities as will give a surplus of mortar when rammed. This proportion, when ascertained, will be regulated by measure. Each batch of concrete will be thoroughly mixed, the mixing being continued on the board until each piece of stone is completely coated with mortar; it will then be spread and at once thoroughly compacted by ramming until free mortar appears upon the surface. The whole operation of mixing and laying each batch will be performed as expeditiously as possible, with the use of a sufficient number of skilled men. The upper surface will be made exactly parallel with the surface of the pavement to be laid, and will be protected from the action of the sun and wind until set.

(4) The wearing surface will be composed of the same material and manufactured in the same manner as that laid upon carriage ways, and will be laid in the same manner, to have a thickness of one inch when compacted 40 per cent. The surface will be compacted by tamping irons and hand rollers. It will be finished by sweeping dry hydraulic cement over its surface and cross rolling.

(5) Rectangular spaces 7 by 3 feet in dimension will be left around trees when already planted, and at intervals of 25 feet between centers adjacent to curb on streets where trees have not been planted. When so ordered a continuous tree space 4 feet wide will be left unpaved adjacent to the curb.

(6) Where the pavement is next to the curb or wall hot asphalt will be poured into the joints and the pavement will be coated three inches therefrom with hot asphalt and smoothed with hot smoothing irons, in order to make the joints impervious. Where the pavement does not abut against a curb or wall a strip of board one inch thick reaching to the bottom of the pavement will be used as a curb made flush with the surface of the pavement.

Specifications for granitoid or artificial block sidewalks.

Upon the foundation prepared there shall first be laid three inches of concrete, composed of one part natural hydraulic cement, two and one-half parts sand, and five parts broken stone, which shall be rammed in place with an iron rammer weighing at least 25 pounds. Upon the foundation thus prepared shall be laid squared blocks or tiles 2¼ inches thick, measuring 18 inches on the side. They shall be laid so as to present a true surface on top and conform to the exact grade of the sidewalk. A thin grouting of pure Portland cement of the best quality shall be spread over the surface and carefully swept into the joints. All superfluous groutings shall be cleaned off and the walk shall be protected with plank or otherwise until the cement has thoroughly set.

There will be about 14 crossing driveways, 15 feet wide, which shall be laid with granite or asphalt blocks as may be directed by the officer in charge. Prices on these items will be made in this connection.

The tiles shall be two and one-fourth inches thick. The lower 1¾ inches to be composed of one part Portland cement and two parts of clean sharp sand, thoroughly mixed, using as small a quantity of water as possible and carefully rammed into the moulds. The upper one-half inch and the sides for one-half inch shall be composed of one part Portland cement of same quality as above, and one part clean sharp sand.

The surface will be finished smooth but not polished.

The tiles, when being seasoned, shall be kept wet for the first five days. No tiles shall be used on the work unless guaranteed by the contractor to be at least thirty days old.

Unless otherwise ordered the edge of the sidewalk shall be finished with plastering of Portland cement and sand of equal parts.

The blocks will be laid with their edges perpendicular to or parallel with the line of the street, as may be ordered by the officer in charge.

Cement inspection.

No cement shall be used on this work unless approved by the officer in charge. For this purpose he shall be entitled to take one-half pound from each package. The decision of the officer in charge shall be final in all cases, and no cement condemned by him shall be used on the work for any purpose whatever. All cement will be required to pass the standard proof tests.

Artificial stone or concrete sidewalk.

(1) The artificial stone sidewalk will be one inch thick, with a base of hydraulic cement concrete 3 inches in depth.

(2) The bed of the sidewalk beneath the base will be prepared in the same manner as for asphalt sidewalks.

(3) The base will be prepared in the same manner and with the same kind of material as that for asphalt sidewalks.

(4) Upon this base the wearing surface will be laid 1 inch in thickness. It will be composed of one part of Portland cement and one part sand. This cement will be tested daily. The sand must be of such size as will pass a No. 20 screen and must be sharp, silicious, and free from aluminous and other foreign substances.

(5) The matrix of the wearing surface will be made as follows: The cement and sand will be thoroughly mixed dry and a sufficient quantity of water afterwards added to form a paste of proper consistency. It will be expeditiously mixed by skilled men. None of it will be used after it has been mixed one-half hour or evidences of setting are apparent.

(6) The water used must be fresh and clean.

(7) The wearing surface will be laid upon the base of one inch in thickness, with a uniform plane surface properly smoothed. It will be cut into diamonds or diagonal slabs of such size as shall be directed.

(8) The wearing surface will be protected from the action of the sun and rain until it is thoroughly set.

(9) Rectangular spaces 7 by 3 feet in dimensions will be left unpaved around trees where already planted, and at intervals of 25 feet between centers adjacent to the curb on streets where trees have not been planted. When so ordered a continuous tree space 4 feet wide will be left unpaved adjacent to the curb.

(10) Where the pavement does not abut against a curb or wall a strip of board 1 inch thick reaching to the bottom of the pavement will be used as a curb, made flush with the surface of the pavement.

No curbing will be required under these specifications.

INTERIOR DEPARTMENT,
Hot Springs, Ark., November 26, 1892.

Specifications for material and labor required in the improvement of the Government Reservation of Hot Springs, Ark., as authorized and required by the Secretary of the Interior, according to advertisement of this date, the work to be done under the direction of First Lieut. Robert R. Stevens, Sixth Infantry, in charge of the Hot Springs reservation improvements.

GENERAL CONDITIONS.

The work is to be executed under the direction and in conformity with the instructions of the officer in charge, acting under the authority of the Secretary of the Interior, and both workmanship and material shall be subject to the inspection, acceptance, or rejection of said officer. The work must be executed in a prompt and workmanlike manner and the materials used be the best of their several kinds.

The contractor will be responsible for any damage to reservation buildings, walls, improved grounds, or system of pipes incidental to the performance of the work required under his contract, and will restore to their original condition any portion of the same which may have been removed for temporary purposes or damaged during the progress of said work.

CURBING.

Excavation.—The site of the trench for the proposed curbing will be excavated by the Government to a grade 16 inches below that fixed for the top of the curbing, the remaining excavation or grading adjustments required for setting the curb at a proper height will be performed by the contractor in such a manner as to give a solid bearing for the curbing stones, the trench bottom tamped when necessary for this purpose.

Material.—All curbing shall be furnished and laid in blocks 5 inches thick by at least 20 inches wide and 4 feet long. That for the Central and Reserve avenue fronts the reservation will be of standard white limestone of or equal in grade to best Alabama or Indiana limestone. Blocks on upper edge, outer face, and inner face to at least 6 inches from the top must be secured to a line; ends of blocks to be squared to afford a close joint, and line-sawed to at least 20 inches from upper edge; outer corner of top to be beveled to an inch line on each surface. The curbing for the Fountain street section shall be of extra standard curbing stone of or equal in grade to the best sandstone of "Cabin Creek" quarry. Upper edge and sides to be dressed to a square and uniform surface and line and edges squared to form a close joint to a depth of at least 15 inches from dressed edge of curbing.

Construction.—Curbing shall be set as a border to the street and as a protection to the reservation front along the base of Hot Springs Mountain, the grade line to be regulated by existing city ordinances of Hot Springs, and to be indicated on the site by the officer in charge of the work. On Central avenue, where a margin or lawn border is proposed between the curbing and the sidewalk, and on Fountain street, where a gravel sidewalk only is to be laid, the curbing may be set in place independently of the walk construction. On the Reserve avenue section and where a concrete sidewalk is planned on Fountain street the curb will be set with reference to the sidewalk which may be constructed under a separate contract, as far as may be directed by the officer in charge of the work. The progress of the work on the curbing shall be regulated by that of the sidewalk construction. The curbing will be firmly imbedded in place to a depth of the upper edge if required. In competition with the white limestone material proposals will be received on granite or stone of Cabin Creek quarry, bushhammered to an eight cut plain surface to the extent of the sawed surface required in the white limestone.

The estimated amounts of the curbing will be as follows:

White limestone (sawed) or other stone (bushhammered) 1,750 linear feet of curbing.

Sandstone 1,150 linear feet of curbing. Proposals to state prices on each grade of curbing per linear foot laid in place and completed, including the grading adjustments left to be performed by the contractor.

* * * * * * *

REMOVAL AND REARRANGEMENT OF EXPOSED PIPES.

The pipes will be cleared as far as possible from the grounds to be included in the park improvements by laying them in a trench (excavated under a separate contract) from the reservoir in a direct line westward, striking the edge of the bluffs at a point north of the Arlington cooling tank, and thence continue by a curve along the edge of the bluff to the northeast corner of the Maurice bath house. Thence they will be carried in the interval between the bath houses and the bluffs, supported on standard pipe racks suited to number of pipes and size (including covering where required) or trestles made of iron piping, either crossed or in the form of verticals with a bar connection. Crossing the interval between the bath houses the pipes will be carried in trenches to be excavated as before indicated, the plan of open pipe work being followed wherever the pipes are protected, as in rear of the bath houses and between their walks and the bluffs.

Levels.—The line of the pipes will fall by continuous descent from the reservoir or the supply spring to the point where they terminate in a riser to supply the tanks, or where they rise to a higher level to cross an interval between the bath houses.

Relief pipes.—At the lowest point in each pipe, at the end of each main or at the point where the main rises to a change of level, a relief pipe connection with a globe valve will be placed in the pipe so as to discharge water from the supply source, and thus prevent liability of freezing. At the first relief pipe from the supply source the relief will connect with the collection main of the impounding reservoir. At the second relief pipe in any main, and which will be required only to discharge the water in the section of the pipe falling from the point of increased level, the relief may discharge into the catch basin of the surface drainage.

Where the tanks are at a sufficient elevation above the building the relief pertaining to the tank discharge may be connected with the supply pipe leading from the tank into the bath-house waste, valves being put in the relief pipe above this connection.

The first relief pipe of all the bath houses south from the palace bath house will be connected to the relief, which will be run into the collecting main especially for the discharge of the supply pipe of the free bath house. This main relief pipe will extend from the southeast corner of the palace bath house in the most direct line and connect with the collecting main of the reservoir in front of that building, valves being required in each of its connecting branches.

Care will be taken throughout in the location of valves to have the number and distributions sufficient to prevent any accumulation of standing water in the pipes between the valves and the sources of supply.

Free bath house.—The supply pipe of the free bath house will extend from the supply spring on Hot Springs Mountain westward to the common trench of the main pipe, from which point it will continue with that system of pipes to a point in rear of the Horseshoe bath house, where, with the relief connections before referred to, it will rise in a continuous ascent to the northeast corner of the building, where a line will be extended into the building by cutting an opening 1½ feet square in the two intervening walls and extending the pipe on the floor level through the waiting room and along the corner of the wall into the pool room, where connections will be made to conform to the bathing system in use.

This change will necessitate the removal and relocation of 60 additional feet of 2-inch pipe and 100 feet of 1½-inch pipe with three additional valves.

Pipe from upper spring.—The pipe extending down from the spring in the Hospital grounds will, from the point of emergence from the Hospital wall, to the point of entrance into the Free Bath House, be carried in a trench to be prepared, as before indicated, under contract, the line of this trench extending along the present pipe line. For the supply arrangement of the bath house a riser will be taken from the pipe at a point without the wall, and entering the building about the grade of the ground will ascend to the required height for the operation of the bathing system. A relief pipe will be placed also on this supply main at the point of departure of the riser and will be arranged for clearing the pipe by a valve and a connection with a surface drain in that vicinity.

The lines of the pipe and details of connection will be indicated in the plans pertaining hereto.

Bids will be made on the work to give prices, first, for moving and relocating the pipe in place per lineal foot; second, for supplying and connecting in place additional pipe required, also per lineal foot; third, prices for valves, fixtures and unions, each in place; fourth, prices for iron pipe-racks and trestles per pound.

In making the award the lowest bid on either division of the specifications forming a complete job will be considered that which tenders the lowest offer for the total of all the items included in such division of the proposed work.

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GENERAL INSTRUCTIONS.

Bids should be prepared in accordance with instructions to bidders printed on form of proposals furnished, and must be accompanied by a written guarantee, the justification of which to be one-fifth the probable amount of the contract to which the bid relates, signed by two responsible persons to the effect that they undertake that the bidder, if his bid be accepted within sixty days after date of advertisement, will, within fifteen days after being notified of the acceptance of his proposal, enter into contract and give bond, with good and sufficient sureties, to perform the work proposed.

Proposals will be received for any portion of the work to be performed, and the Government reserves the right to reject any or all proposals, bids being considered independently for each item, and in awarding or executing contract for any item, the quantities or figures thereof as herein specified, shall be subject to increase or diminution of 20 per cent should the public interest require such change.

Prices should be written out in words as well as figures.

Alterations by erasure or interlineations should be explained or noted in the proposals over signature of bidders.

Proposals should be signed by the bidder submitting them, with his usual signature in full.

When a firm is a bidder, the members of the firm or agent who signs the firm's name to the proposal should state, in addition, the names of all the individuals composing the firm.

Any one signing a proposal as the agent of another or others must file with it a legal evidence of his authority to do so.

Proposals should be inclosed in suitable envelopes, securely sealed, indorsed and addressed as required by the advertisement, and be delivered to, or received by, the officer to whom it is addressed before the time appointed for the opening; and no responsibility shall attach to that officer for the premature opening of any proposal not so indorsed as to show that it is a proposal and the particular purpose for which it is made

Payment on any contract will be made upon completion and acceptance of the entire work included thereunder.

Where tender on material alone is made, bids shall state proposed points of delivery and give prices of material furnished on board cars ready for shipment when transportation by rail is necessary for local delivery.

A firm will not be accepted as a surety, nor will a partner be accepted as a surety for a copartner or for a firm of which he is a member. An officer of a corporation will not be accepted as surety for such corporation.

One copy of the advertisement and of these specifications should be securely attached to each copy of proposals.

Envelopes containing proposals to be marked "Proposals for Ground Improvement," and addressed to

ROBERT R. STEVENS,
First Lieutenant Sixth Infantry, A. A. Q. M. U. S. Army.
OFFICE OF ACTING ASSISTANT QUARTERMASTER,
Army and Navy General Hospital, Hot Springs, Ark.

INTERIOR DEPARTMENT, *Hot Springs, Ark., February 9, 1893.*

Specifications for material and labor required in the protection and improvement of the Government Reservation of Hot Springs, Ark., as authorized and required by the Secretary of the Interior, according to advertisement of this date, the work to be done under the direction of First Lieut. Robert R. Stevens, Sixth Infantry, in charge of Hot Springs Reservation Improvements.

GENERAL CONDITIONS.

The work is to be executed under the direction and in conformity with the instructions of the officer in charge, acting under the authority of the Secretary of the Interior, and both workmanship and material shall be subject to the inspection, acceptance, or rejection of said officer. The work must be executed in a prompt and workmanlike manner, and the materials used be the best of their several kinds.

The contractor will be responsible for any damage to the reservation buildings, walls, improved grounds, or system of pipes, incidental to the performance of the work required under his contract, and will restore to their original condition any portion of the same which may have been removed for temporary purposes or damaged during the progress of said work.

GRANITE CROSSINGS.

Furnish and lay in place at main entrance crossing of concrete walk and other points which may be designated of granite pavement, to be laid in rectangular blocks of or equal in grade to granite of Little Rock quarries, surface measurement of blocks to be 3½ by 7 or 4½ by 9 inches, thickness not less than 6 inches.

Foundation to be brought by the Government to a grade within 3 inches of the subgrade for the pavement foundation, the remaining grading adjustments to be performed by the contractor.

Foundation for pavement will consist of a layer of sand to be 2 inches thick after thorough compression by tamping.

Method of Construction.—Blocks shall be evenly squared and laid firmly in place in such a manner as to break joints throughout and bring the different sizes of stone into regular lines, stones to be set firmly in place, joints to be close and filled with clean, sharp sand, pavement throughout to be solid, fitting of pavement in border spaces to be effected by chiseling blocks to the necessary size, and before acceptance to be thoroughly tested by the officer in charge of the work.

Bids to state price per square foot of pavement laid in place complete.

COPING.

All coping shall be of even color and texture, shall be of uniform thickness for each section of proposed work, shall project 2 inches beyond outer face of wall, and be flush with inner face, unless the tops of walls should be above ground surface, when projection will be 2 inches both sides. Coping stone must be in single pieces in width of wall, and be in lengths of not less than 4 feet each. Beds of stone to be sufficiently dressed to give a firm and even bearing, and be laid in Portland cement mortar.

Joints to be vertical, close, and thoroughly filled with a Portland cement grout.

Proposals to state price per lineal foot, laid in place and completed, for each grade and finish of coping.

All limestone coping used shall be of best grade of white Indiana or Alabama limestone, and be evenly sawed on six sides, thickness of coping to be 3 and 6 inches, as may be indicated in the plan.

Sandstone coping shall be of material of, or equal in grade, to best Cabin Creek stone. Two grades will be required in the work, one quality to be hammer-dressed on exposed faces and ends to an even line, that of second grade finish shall be hammered to a plane or saddleback form, thickness to be 3, 4, or 5 inches, as may be prescribed in each case.

DRAINAGE.

Excavation.—Necessary excavation of trenches for drainage pipe will be performed by the Government to such an extent as to leave the bottom of the trench within 3 inches of the grade required laying pipe, leaving the minor grade adjustments to the contractor.

Drainage Construction.—Lay vitrified drainage pipe of best quality, cemented joints, of sizes from 4 to 6 inches in diameter, the work to be performed in accordance with general plans, indicating sizes, location, and extent of pipe runs,

with such incidental additional drainage connections as may be found necessary in performance of the work, and directed by the officer in charge of the same.

Details of material to be about as follows: Thirty-inch pipe, 300 pounds per lineal foot; two-foot pipe, 180 pounds per lineal foot; twenty-one inch pipe, 135 pounds per lineal foot. Pipe of smaller sizes to be of best quality standard sewer pipe. Bids to state prices per lineal foot, laid in place and completed.

Contract shall be subject to award in divisions, as the interest of the Government may require, provided, that no contractor shall, under his bid, be held, without his consent, to supply any amount of pipe less than a carload.

LAWN CURB, OR BASE STONE.

Base stone alone shall be used to mark an inclosure for the vicinity of the pump house. It will be of white sawed limestone, about 12 inches wide, and about 14 inches high, to be sawed on six sides, beveled on two upper edges five-eighths inch on the vertical, 7¾ inches on the surface face, to be set 2 inches below the lawn grade, and firmly bedded on 2 inches of gravel, compressed by tamping. Granite base, where used, shall be of the best grade of granite of or equal in grade to that of Little Rock quarries, and will be dressed to an eight cut bush-hammered finish, surface to be even and edges squared, except where a beading or groove is required, finish and method of setting to be same as in coping.

ENTRANCE PARAPET WALL.

This will be constructed from a granite base resting on a foundation wall to be built under a separate contract, and will be composed of best white limestone of Alabama quarries, laid as broken ashlar in cement mortar, exposed surfaces to be sawed, joint to be three-sixteenths inch space between blocks, base to be as prescribed for masonry of exedra, coping to be cut in molding pattern as indicated in plan.

Bids to state price per lineal foot of base and coping, and per cubic foot of wall, each in place and complete.

WALLS.

The walls to be constructed under these specifications will consist—

First, of parapet and retaining walls for entrances to the foreground of the reservation in rear of the bath houses.

Second, in retaining and parapet walls to form a border for the drive and supply roads in rear of the bath houses.

Third, of wing walls, where required, for steps along the road border or at other points along the foreground of the mountain.

The division into sections requiring different classes of work and the different combinations of walls and finish will be as follows:

(1) At main entrance of reservation front between Palace and Maurice bath houses, foundation walls to be native range work, first-class, pitch-faced.

Parapet walls to surmount latter and rise above road, base to be of blue granite, wall and coping to be of white limestone, sawed three ways, laid in close leaded joints without mortar; either panel or range work.

Bids to state prices on both panel and range work methods.

(2) Parapet circular wall in front of free bath house; base and coping to be of white sawed limestone; wall to be of white novaculite range work, hammer-dressed to a first-class pitch-faced finish; wall material to be selected of lighter color than the limestone finish to be used; pilasters to be faced with the same material as other framing stone.

(3) On upper parapet wall of drive, dark red sandstone of Malvern quarry, similar to sample on file at office of officer in charge of the work; coping to be of the same material as wall, but of selected and darker color.

(4) Range and rubblework of native stone surmounted by a coping of Cabin Creek sandstone or other stone of equal grade.

GENERAL METHOD OF CONSTRUCTION.

All the walls shall be constructed of stone laid in cement mortar, one part approved American cement, two parts clean, sharp sand; the mortar for pointing range work to be composed of one part Portland cement to one sand. All range work shall be bead-pointed where required; rubblework will be pointed with a trowel finish, except where otherwise specially indicated in the plan.

Only stones of good size and approved quality to be used, and to be laid in their natural beds. A specimen of the rock which each bidder proposes to use shall be furnished in connection with his proposal. Care must be taken to break joints and

the wall must be thoroughly bonded, thickness in each case to be four-tenths of the height of the wall; top must be in line and be level transversely; batter of walls shall, unless otherwise directed, extend to 1 inch to the vertical foot. Where the wall is to be surmounted by a base for another wall or by a coping, the top of the wall shall be finished to give an even bed for such coping or base. The outline of the walls of different classes, the openings to be left for steps, etc., the location of the pilasters or piers, will be shown in the plan adopted for the work and which will be filed in the office of the officer in charge of the work. Where such openings occur, corners shall be carefully finished and squared, and selected rock employed for such portions of the work.

Bids to state price per cubic yard of each class and grade of masonry laid in place and completed. Award may be made independent for each division of the work.

ENTRANCE WALLS.

These shall be constructed with special care and finish, and where they form a border at front entrances, or where opposite intervals between the bath houses, shall be laid in coursed or range work, in such a manner as to give special combinations or contrasts with the landscape surroundings of the decorative plan. The wall of sections requiring special finish shall be composed of quarried stone of selected color, and shall be laid in range or coursed work, hammered to a first-class pitch-face finish. All the stone used in such work shall be of the best quality, selected grade, and with the exception of the novaculite, all the native stone may be procured on the summit of North Mountain, and within the limits of the Government reservation, the price of the bid to make a corresponding reduction. All range-work stone shall be free from seam stains or other discolorations, or from cracks liable to cause disintegration.

STONE STEPS.

Furnish and set in place stone steps 6 by 12 inches for walks and entrances as may be required by the officer in charge of the work. Two grades of such steps will be required and used.

First, for foreground along mountain, material shall be of white limestone sawed on faces and ends, of or equal in grade to stone of Alabama or Indiana quarries.

Second, at other points on reservation material shall be sandstone, hammer-dressed to an even line and snrface, and equal in grade to stone of Cabin Creek quarries. Steps in each case to be set in Portland cement mortar, half and half, and have such wing walls as may be indicated by plans. Construction of steps and wing walls to be considered as possible independent contracts.

Proposals shall state prices per cubic foot of material, and steps laid in place and complete.

CATCH-BASINS.

Catch-basins will be constructed (at such points as will be designated by the officer in charge of the work) to receive surface water; select hard-burned brick to be used, laid in cement mortar, half and half cement and sand, the walls to be 8 inches or or one brick thick, with paving of brick set on edge. Inlet and outlet drain pipes will enter and leave the basins about 1 foot from the bottom of the basin; the basins will be of such depths as directed by the officer superintending the work.

Basins on reservation front to be protected with white sawed limestone covering, 6 inches in thickness; those on other sections to be protected by a flagging of sandstone 5 inches in thickness, of or equal in grade to that of Cabin Creek quarry; faces of such stone to be hammered to a line and to a plane surface; basins in each case to be constructed so as to have an opening on one side, or in a diagonal to receive surface water; such an opening to be one and one-fourth times the area of the outlet pipe and to be guarded by an iron bar in such a manner as to subdivide the opening into spaces not larger in any dimension than three-fourths the size of the outlet pipe of the basin.

This protecting bar, or bars, to be of wrought iron, three-fourths inch, firmly set with cement into basin opening.

Proposals on basins to state price per thousand brick laid in place and completed per square foot for each grade of stone covering and per pound for protecting bars, in place and complete.

COOLING TANKS.

The tanks required under these specifications will consist of masonry reservoir with frame roof. They will be constructed in separate divisions to consist of a receiving tank, 25 by 16 feet; a discharge tank of same dimensions for free bath house and other supply, and a division 20 by 15 by 3 feet for supplying cold water drinking fountains on the reservation front. The tanks will be located and con-

structed according to the plans pertaining hereto, and such detail drawings as may be furnished by the officer in charge during the performance of the work.

Foundation for reservoir will be brought by the Government to a grade within 2 inches of that required for the reservoir construction, any necessary filling of sub-grade for bottom of tanks being made with broken stone well rammed in place. Upon this foundation thus prepared the contractor will, after performing the minor grading adjustments, proceed with the work assigned him under these specifications.

Masonry shall consist of a stone wall laid in native range, and extending to a height 4 feet above the bottom of the reservoir. Stone used shall be of extra large size, close fitting and free from seams. Thickness of wall to be 2⅓ feet at the level of reservoir bottom and 2 feet at the top, an offset of 6 inches being taken in masonry at a point about 8 inches above the bottom of reservoir in such a manner as to form a projecting base at that height. Within this stone wall, and as lining for the side of the reservoir, fit a wall 8 inches thick of best pressed hard-burned paving brick to be laid in such a manner as to break joints vertically and horizontally. The wall will be finished with a sandstone coping of or equal in grade to standard Cabin Creek stone, coping to project 2 inches over wall on outside and come flush with inside.

Top of tank shall be finished with framework and roof supported by inclosing masonry wall.

Pilasters of 2 inches clear projection will be built out from the reservoir walls at corners and at the connecting point of the two longer tanks. The receiving tank shall discharge into the other reservoirs by means of depressions 4 inches wide cut into the stone coping, which at those points will be made to project as a trough 6 inches clear of the upper tank and over the edges of the lower; level of the two discharges to be the same. Outlet and relief pipes will be connected with reservoirs as the work progresses, the necessary lengths to carry the pipes through the walls being furnished by the Government.

Pavement of reservoir to consist of concrete laid as prescribed for walks, except that the layer of sand concrete shall be 1½ inches thick; this lining of sand concrete will extend up the sides of the tank to the top of the masonry, and be constructed throughout in such a manner as to be impervious to water.

All cement used in walls and concrete shall be of best imported standard test Portland cement.

Bids to state price per cubic yard for masonry, per linear foot for coping, and per square yard for concrete surface of bottom and sides.

MASONRY COLUMNS.

These shall be constructed as indicated in plans. The base of columns shall be of granite of or equal in grade to that of Little Rock quarries, bush-hammered to a ten-cut surface, the main portion of column and capstone to be of best quality of white limestone of or equal in grade to stone of Alabama quarries.

Method of construction.—The granite base shall be in one piece and from this the column shall be laid in solid sections of single pieces, the proportions of columns and dividing lines of blocks being as indicated in plans, the capstone to be in a separate piece, and to be perforated as required either for lighting fixtures or for emblematic devices for entrance.

Bids to state rate per cubic yard in place of each grade of masonry.

Construction of exedra.—An exedra recess shall be formed by means of a connecting wall between the masonry columns. This wall shall rest upon a granite base corresponding to that of smaller columns and will be constructed of limestone set in vertical sections of a single piece, and will be finished by a plain coping of same material, proportion to be as indicated in plan.

GRASS SEED.

The following are the estimated quantities of grass seed for lawns, and of loam soil required under these specifications:

Sod grass seed of or equal in grade to Henderson's standard best grade, 40 bushels.

Kentucky blue grass seed, best quality, 40 bushels.

Seed in each case to be of last year's growth, free from chaff, from admixture of foreign seeds or substances, and of a standard quality for planting.

Bids to state price per bushel of each kind of seed delivered here.

LOAM SOIL.

This shall be of best quality of fertilizing soil, free from sand or clay in excess, from rocks or from roots or other woody material.

Quantity required under these specifications is estimated to be about 600 cubic yards, delivered on the reservation grounds as directed.

Bids to state price per cubic yard, delivered.

BRONZE DEVICES.

The bronze devices for entrance columns shall consist of eagle figures of proportions and outlines as shown in plans. This division of the work will consist in modeling of the required figure and the casting of the same in bronze accurately from the model so constructed.

Modeling.—Proposals on this work will only be received from sculptors of established reputation and standing, and will include on their part the superintendence of the casting of the figures, and will cover in the price offered the furnishing of the latter complete and properly boxed, ready for shipment on board cars at place of manufacture. The required device shall be of standard bronze, and shall be cast under cut of best grade of workmanship and finish.

MEDALLIONS.

These will be cast in relief after the design and in the proportions shown in the plans pertaining hereto. Conditions and requirements as to construction and price offered shall be the same as prescribed for eagle figures.

PARAPET AND RETAINING WALLS.

When not specially prescribed to be of range work, these walls will be of rubble masonry, the material to be selected with special reference to bonding, and where required will be suited for a rustic finish to walls, and be laid as first-class rubble masonry.

PIPES FOR FOUNTAINS.

The arrangement and location of system of pipes to be laid for fountains will be shown in the plans; the details will be shown in special drawings or as directed by the officer in charge of the work.

SOURCES OF SUPPLY.

Sources of fountain supply will consist of different springs not used or connected in the bath-house system; the reservoir or enclosing masonry for each spring will be constructed by the Government as will all cementing of the pipe required in the spring connection.

Excavation of trenches will be performed by the Government to the extent of bringing the bottom of the trench to within 2 inches of the exact grade required for the pipe, leaving the minor grading adjustments to be performed by the contractor; back filling of the trenches will also be performed by the Government.

Construction pipe furnished shall be of best quality of wrought pipe, threads to be of gas-pipe standard.

Bids will state prices per linear foot of different sizes of pipe laid in place and connected, and of unions, valves, and other fittings, each in place.

Specifications of trees, shrubs, and plants required under advertisement of this date, from this office, for decorating the public grounds of the Hot Springs Reservation, Hot Springs, Ark., as authorized and required by Hon. John W. Noble, Secretary of the Interior.

TREES DECIDUOUS.		
Æsculus—Horse chestnut, red flowering	feet..	4
Amygdalus—Almond, double white	do...	4
Acer—Maple, cut leaf weeping	do...	8
Betula—Birch, cut leaf weeping	do...	8
Catalpa speciosa	do...	6
Cerasus serotina—Rum cherry	do...	4
Chimonanthus—White fringe	do...	4
Cornus sanguinea—Red-twigged dogwood	feet..	4
Cratægus—Hawthorn, double scarlet	do...	4
Cytisus laburnum—Golden chain	do...	4
Euonymous—Strawberry tree	do...	4
Kœlreuteria paniculata	do...	4
Pawlonia imperialis	do...	4
Persica—Peach, double white flowering	feet..	3
Pyrus sorbus—Mountain ash	do...	4
Pyrus spectabilis	do...	3
Prunus pissardii		
TREES EVERGREEN.		
Biota—Arbor vitæ, Japonica filliformis	inches..	18
Arbor vitæ—Chinese, for hedges		
Arbor vitæ—Siberian	do...	18
Cephalotaxus fortunii—Cephalotaxus drupacca	feet..	2
Juniperus—Juniper, Communis Hibernica—Irish	feet..	4
Sabina, trailing		
Squamata, trailing	feet..	1
Magnolia grandiflora, plants	do...	3

Specifications of trees, shrubs, and plants required under advertisement, etc.—Continued.

TREES EVERGREEN—continued.		
Magnolia grandiflora, plants	inches	12
Podocarpus coronarius—Japan yew	feet	2
Retinospora plumosa, plants	do	3
Retinospora plumosa, plants	inches	18
Thujopsis dolbrata variegata	do	18
SHRUBS DECIDUOUS.		
Altheas, Amaranthus, Rubra plœna, Totus albus, Variegata flore plena	feet	2
Berberis—Barberry, Purpurea	do	2
Budleya, Curvuflora, Lindleyana	do	2
Calycanthis—Sweet shrub, floridus albus	feet	2
Praeco, or Chimonanthus fragrans	feet	2
Ceanathus—Jersey tea, Arnouldi, Azureus, Marie, Rosea carminata	feet	2
Chrchorus—Japan kerria	do	2
Chilopis linearis—Flowering willow	do	2
Chamocerasus—Upright honeysuckle, Chrysantha, Fragrantissima, Ledebouri, Tartarian rubra	feet	2
Coronilus emeris—Scorpion senna	do	2
Daubentomis tripetiana	do	2
Desmodium dillenii	do	2
Deutzia gracilis	do	2
Escallonia philippiana	do	2
Elocagnus parviflora	do	2
Exochorda, Speroea grandiflora	do	2
Forsythia—Golden bells	do	2
Fortunii	do	2
Veridissima	do	2
Hydrangea	inches	6
Rosea	feet	3
Amaranthus	do	2
Hypericum—St. John's wort	do	2
Patulum	do	2
Multiflorum	do	2
Lagerstremia—Crape myrtle, New crimson	feet	2
Lasonia alba—Tree mignonette	do	1
Lavender—Sweet	do	1
Leonatus leonarius—Lion's tail	do	1
Lyceum chilensis	do	2
Magnolia, Chinese variety, Conspicua or Yulan, Purpurea, Soulangeana, Alexandiana, Halleana	feet	2
Philadelphus—Mock orange, Primuliflorus, Speciosum	feet	2
Ponciana gillessi	do	2
Potentilla frutuscans	do	2
Pruners—Plums, Triloba, Pissardii	do	5
Punica cranatum—Pomegranate, Legrelli or Variegata, Rubra	feet	2
Pyrus japonica—Japan quince, Rosea, plœna, Aurea, Rubra	feet	2
Pyrus salicifolius—Willow-leaved pear	feet	5
Spiroea, Thumbergii, Primuliflora, Opulifolia aurea, Billardii, Bumaldii, Callosa alba, Callosa atrosanguinea, Crispifolia, Fontenaysi alba, Van Houtles	feet	2
Stephonandra flexuosa	do	2
Symphoricarpus racomosa—Snowberry	feet	2
Syringa—Lilac, Persica, Colmaronsis, Virginal, Rouge de Trianon, Ville de Troyes	feet	2
Tamari Tamarisk, Africanus, Indica	do	2
Viburnum—Snowball, Loutana, Plicatum	do	2
Vitex—Chaste or saga Tred Agnus Castus latifolia	do	2
Weigolia:		
Candida	feet	18
Loomansia aurea	inches	18
Rosea variegata	feet	18
SHRUBS EVERGREEN.		
Acuba, Latimaculata, Japonica	feet	2
Berberies—Barberry, evergreen variety, Fortunii, Japonica	feet	2
Buxus—Box:		
Arboroscens, tree	feet	18
Nana—Dwarf for edging	inches	6
Japonicum aureum, heavy plants,	feet	18
Japonicum aureum, lighter plants,	feet	18
Latifolia, heavy sheared	do	18
Cothoneaster Simondsii	inches	18
Cleyera Japonica	feet	18
Eleagnus reflexa	do	2
Escalonia montevidensis	do	18
Euonymus:		
Aurea variegata	inches	6
Radicans variegata (creeping)	do	6
Hedera arborea—Tree or shrubby ivy	feet	2
Helianthemum—Rock or sun rose, Algarveuse, Albides	inches	18
Illicium Anisatum—Anis tree	feet	2
Jasiminium:		
Fruiticans	inches	18
Reevesii	do	18
Laurus—Laurel:		
Nobillis apollis	inches	18
Regalis	do	18
Lusitanica, Portugal	do	18
Lauro Cerasus, English	do	18
Ligustrum amurense, Amoor River privet,	feet	3
Ligustrum Japonica, Mahonia aquifolia,	feet	3
Magnolia euscata	foot	1
Mespilus crataegus—Pyrcantha lalandii, Thorn	feet	2
Myrtus, Floreplenae	foot	1
Olea teogentusa:		
Tea olive, small plants	foot	1
Tea olive, heavy plants	feet	3
Osmanthus illicifolius aureus	inches	18
Osmanthus illicifolius argenta	do	18
Photinia sorulata	feet	3
Pittosporum tobira	inches	18
Pittosporum variegata	do	18
Raphiolepis indica, Crataegus Indica	feet	2
Ruscus acuatus—Butcher's broom	inches	18
Thea bohea—Chinese tea plant	do	18
Viburnum, Odoratissimum Tinus or Lahrustinus, Supensum, Macrocephalum—Chinese guelder rose	inches	18
Rhododendrons catawbiense, imported grafted plants with buds	feet	2
Chameoropis fortunii—Chinese palm	do	2
Yucca Alaefolia, var. Spanish bayonet	do	2
Climbing vines, Akebia Quinata, evergreen Ampelopsis veitchii, Bignonia radicans, Ivy, English	foot	1
Wisteria sinensis alba fruituscans	feet	3
MISCELLANEOUS PLANTS AND BULBS.		
Alternanthera for foliage beds, Paronychoides major, Aurea nana	feet	3
Caladiums, French foliage, best assorted:		
Plants, small	inches	4
Plants, larger size	do	6
Geranium Bruants Sou de Mirande.		
Gladiolus lemoines, hardy hydrids.		
Helleborus, Christmas rose.		
Musa Ensete.		
Pæonies, Chinese herbaceous rubra.		
Sumpervivem repens.		
Tritoma uvaria.		

The articles above enumerated should be delivered free of expressage or freight in Hot Springs, Ark., as required, on the reservation grounds or at other points which might be designated and agreed upon. All plants or seeds to be of the kind

called for in the foregoing specifications, and to be delivered in good condition for planting and growth, and any of said articles found impaired by delay before delivery will be rejected at the loss of the agent or dealer furnishing the same. In making purchases such plants will be selected as are desired by reference to proposals, offers on the remaining articles being rejected. Native trees to be furnished and planted out by the contractor and warranted by him for growth on penalty of replacement free of cost in case of loss of such plants.

Native trees:

Holly, American.
Walnut.
Gum, Black.

CONCRETE WALKS.

The concrete work required will consist of 10,350 square feet of concrete sidewalk laid 14 feet wide without curbing along the front of the reservation grounds on Central avenue, both edges of walk exposed and requiring facing; about 1,800 square feet laid along the reservation front on Reserve avenue, in a width of 11 feet 7 inches, against a curbing, both edges unfaced; about 2,400 square feet of walk laid on Fountain street, in a width of about 8 feet, outer edge to be faced; and about 3,596 square feet of walk laid as entrances into the bath houses in a width of 6 feet, both edges to be faced; and about 660 feet of concrete walk laid in six street-car landings with facings on each of about 12 feet in length on outer edge.

Method of construction to be as follows:

Subgrade.—The ground will be brought by the Government to a grade within 3 inches of the subgrade required for the foundation bed, leaving to the contractor the minor grading adjustments necessary to bring the subgrade to a distance of 3 inches below the proposed walk surface.

Foundation bed.—The bed for the concrete work shall then be leveled with broken stone or gravel well packed and rammed in place.

First or foundation concrete layer.—Shall be of gravel concrete composed of one part of Portland cement to five parts of clean sharp sand, and shall be at least 3 inches in thickness after being well tamped in place.

Top or finishing layer.—Shall be of sand concrete, one part of Portland cement to one part of clean sharp sand washed free from loam, and shall be at least 1 inch in thickness after being firmly compressed and leveled. This layer shall be spread by courses and in blocks, the first leaving vacant alternate block spaces, the second filling spaces and closing surface.

Facing.—The facing required shall form a protecting curb on the exposed edge of the walk, and will be constructed by turning down the top or finishing layer in a thickness of about 1½ inches to the bottom of the gravel concrete, the upper edge to be beveled five-eighths inch on the vertical edge, and three-fourths inch on the surface face.

Proposals should state price per square foot of surface measurement of concrete work complete.

GENERAL INSTRUCTIONS.

Bids should be prepared in accordance with instructions to bidders, printed on form of proposal furnished, and must be accompanied by a written guaranty, the justification of which to be one-fifth the probable amount of the contract to which the bid relates, signed by two responsible persons to the effect that they undertake that the bidder, if his bid be accepted within sixty days after date of advertisement, will, within fifteen days after being notified of the acceptance of his proposal, enter into contract and give bond, with good and sufficient sureties, to perform the work proposed.

Proposals will be received for any portion of the work to be performed, and the Government reserves the right to reject any or all proposals, bids being considered independently for each item; the quantities or figures thereon, as herein specified, shall be subject to increase or diminution of 20 per cent, should the public interest require such change.

Prices should be written out in words as well as figures.

Alterations by erasure or interlineations should be explained or noted in the proposal over signature of bidder.

Proposals should be signed by the bidder submitting them, with his usual signature in full.

When a firm is a bidder, the members of the firm or agent who signs the firm's name to the proposal should state in addition the names of all the individuals composing the firm.

Anyone signing the proposal as an agent of another or other must file with it legal evidence of his authority to do so.

Proposals should be inclosed in suitable envelopes, securely sealed, indorsed and addressed as required by the advertisement, and be delivered to or received by the officer to whom it is addressed before the time appointed for the opening; and no responsibility shall attach to that officer for the premature opening of any proposal not so indorsed as to show that it is a proposal and the particular purpose for which it is made.

Payment on any contract will be made upon completion and acceptance of the entire work included thereunder.

Where tender on material alone is made, bids shall state proposed points of delivery, and give prices of material furnished on board cars ready for shipment when transportation by rail is necessary for local delivery.

A firm will not be accepted as a surety, nor will a partner be accepted as a surety for a copartner or for a firm of which he is a member. An officer of a corporation will not be accepted as surety for such corporation.

One copy of the advertisement and of these specifications should be securely attached to each copy of proposals.

Envelopes containing proposals to be marked "Proposal for ground improvements," and addressed to

ROBERT R. STEVENS,
First Lieutenant, Sixth Infantry, A. A. Q. M., U. S. A.

OFFICE OF ACTING ASSISTANT QUARTERMASTER.
Army and Navy General Hospital, Hot Springs, Ark.

REPORT

OF THE

SUPERINTENDENT OF YELLOWSTONE NATIONAL PARK.

DEPARTMENT OF THE INTERIOR,
OFFICE OF SUPERINTENDENT OF
YELLOWSTONE NATIONAL PARK,
Mammoth Hot Springs, Wyo., July 27, 1893.

SIR: Complying with your request of the 18th instant, I respectfully submit the following report of operations and events in the Yellowstone National Park during the past year:

The tourist season experienced the usual vicissitudes. Following closely on the date of my last report came a substantial increase in travel, and the month of August, 1892, showed a larger volume than any preceding month. September opened well, but cold weather coming about the middle of the month kept tourists back, and the last ten days of the season travel was very slight.

During the winter more snow fell than usual. On June first I started through the Park ahead of the first load of regular visitors. The road was fairly good to the Upper Basin via the Fountain; it was absolutely impassable over the divide towards the Thumb. I made an effort to reach the canyon via Norris, but was obliged to turn back on the evening of June 3, when I was within 3 miles of the hotel.

At that time the snow averaged 3 feet deep over 8 miles of this road, and a repair party had been shoveling on it for three days. The first vehicle got to the canyon on the evening of June 4, and soon afterwards the hotel at that place was stocked and opened. A few days later the lake was reached, and that hotel was opened, but travel to it remained light until the way was cleared for the circuit via the Thumb. Early in June I instructed Capt. Scott, then in his camp at Lower Basin, to use every effort to open the road across the divide. He made several unsuccessful attempts, but finally, about June 20, he sent me word that he had been able to reach the Lake with a working party and a heavy wagon. I immediately started out, and was the first to pass over the road in a light vehicle, on June 25. The next day the road was formally opened for stage travel, and has been in use ever since.

I recall to your honor that snow was still found on the roadside on July 20, when you passed over it.

Notwithstanding an unusual fall of snow and a consequent late season, the travel for June was far better than ever before in that month. Doubtless the World's Fair has much to do with this, for the hotel registers show a large majority of foreigners from every quarter of the globe. I am sorry to have to report a very great falling off for this month.

There are several large excursions due in August, which will, I hope, restore the previous high average. In looking back over past reports and records I find that July has always been disappointing. Perhaps the financial situation of the country has somewhat to do with the falling off this year.

The regular travel last year amounted to 3,645. This, however, is independent of camping parties, of which no record is kept. With more general information about the beauties and wonders to be seen here the number of tourists should multiply many fold. In Germany the pupils of the common schools are taught of this Park, and the result is abundantly shown in the large number of Germans who annually visit it. Perhaps a wide distribution of some public document, giving a popular description of the Park and its wonders, would have the same effect in this country. I recommend the preparation and publication of such a pamphlet.

LEASES IN THE PARK.

The question of leases and franchises in the Park has come forward very prominently within the past year. The Yellowstone Park Association has reduced its plant somewhat, and now has hotels at four points only, viz: Mammoth Hot Springs, Fountain, Lake, and Canyon; and lunch stations at Norris, Upper Basin, and the Thumb.

Under the present law the association may only hold 10 acres of land under lease. This much it already has, so it could not, if it would, extend its accommodations. The benefits to the traveling public of a series of hotels under the same management must be apparent to all. No monopoly is created, for it can not be called monopoly when every charge is regulated by your Department. There is need of a hotel at Norris; perhaps one with twenty or thirty rooms, with ample kitchen and dining-room space, would answer for the immediate future. The old hotel at Upper Basin is this year used as a lunch station only. All tourists have to return for the night to the Fountain, and on the following morning make their third trip over this 10 miles. The obvious remedy is a good hotel at the Upper Basin, and this should be provided for without delay. The site of the present hotel is incomparably the best in the whole Basin, but unfortunately it is within the legal limit of "Old Faithful."

When the law was passed prohibiting the erection of any hotel within one-fourth of a mile of any geyser or other object of interest, it was the fear of Congress that people or corporations would obtain proprietary rights within the Park and charge visitors for the privilege of viewing its wonders. The progress of time has removed all that fear, and the law might well be repealed in general, or at least for this spot in particular. I also recommend the repeal of the law prohibiting leases for more than 10 acres to a single corporation. With these changes I should hope for an increase of accommodations that would add greatly to the pleasure and comfort of tourists.

The leases of the Yellowstone Park Association already cover all the ground to which they are legally entitled. The cottage hotel at this place is under their management, but not on their lease. It has been well managed, and serves a most useful purpose. The association should in some way be confirmed in its rights thereto. A lease for the site at the Fountain should be made out and delivered to it.

I recommend proceedings in condemnation, with a view to obtaining possession, for the government of the two frame cottages near the

mouth of Nez Perce Creek. They are much needed for the shelter of the troops stationed at that point each summer. The old barn and stable on the south side of the plateau, facing the hotel at this place, should be removed and placed at the foot of the bluff back of the hotel, as should also the old blacksmith shop and other old buildings near it. As at present situated they form a very unlovely foreground to an otherwise beautiful view. The old barn back of the cottage hotels with its surroundings is most unsightly. A slight expenditure for renovation would greatly add to its appearance. The Transportation Company has under lease all the ground to which it is legally entitled. Like the Park Association it has need of more, and this I hope may be granted. The company has leases and rights within the Park which are accompanied by corresponding obligations. Their lease requires them to keep transportation in full quantity, and at all times, for all the Park travel. They are required to keep all material of first quality; horses gentle and well broken; drivers sober, courteous, and capable. It would seem that under these circumstances they should be protected in their rights to the most of the Park travel.

I have had before me applications by the score for permits to carry on transportation business within the Park. I am well acquainted with many of these applicants, and others I know by repute. Several of them have regular "runners" at Livingston and on the trains between there and Cinnabar who make false promises about what their own line will do for tourists and false statements about what the regular line does do. The result is that at the present time they are getting a large percentage of the travel, and giving, as a rule, very poor service. I very often hear complaints on this score, but up to the present time I have been powerless to help it. Everyone who has traveled knows what a nuisance the hackman becomes about a depot or landing. These on the Park border are no exception to the rule. They do not carry any forage; their teams must either make the trip on what little grass they can gather during the night, or they get their grain by collusion with soldiers or employés within the Park.

There are, of course, people of limited means who wish to make a tour of the Park cheaply, and others who prefer to make a camping tour. I see no objection to allowing one or two approved parties to carry on this kind of business; but I recommend that licenses be refused all others, or that they be placed under such careful and close supervision as will abate the present nuisance. There is no municipality that does not license and arbitrarily supervise its cab service, and such supervision is doubly necessary at this place.

The leases of Mr. F. Jay Haynes and Mr. John Yancy will soon expire. Mr. Haynes has few equals as a photographer in this country. He has improved and beautified his grounds here, and has conducted his business very satisfactorily. I have recommended that his lease be extended.

There is also satisfactory reason for approving the extension to Mr. Yancy. He keeps a very primitive kind of a place, but it gives the necessary accommodations to the fishing parties that go there, as well as to travelers on the Cooke City road. When the projected road over Mount Washburn is completed a hotel near Tower Falls will be needed; but that should be independent of, and different in character from, the one now kept by Mr. Yancy.

I have recently approved the application of Mr. French for lease of certain parcels of land here, at Yancy's, and at Soda Butte. These are of no benefit to the Park or to Park travel, but are only of use in con-

nection with his contract to carry the mail to Cooke City. Should anything cause the mail route to be abandoned, these leases should all be canceled. Right to keep a small store, with such articles as are generally needed by tourists, should be granted. Such a store, with very limited stock, is now satisfactorily conducted by the postmaster, Mrs. George Ash. There has been no change in regard to the boat company's leases, and none is recommended. I think, however, that authority might be granted to some one to maintain one or more naphtha launches on the Lake. It seems to me that there should be some profit in the venture. Applications for a few other minor permits have been sent you with my approval.

BOUNDARY LINES OF THE PARK.

After an existence of more than twenty-one years the boundaries of the Park still remain unmarked. I have submitted for the consideration of the Department a question concerning the northern boundary. There is a question as yet undecided relative to the western boundary. Once these are finally settled the work of actually locating and plainly marking the entire line should be prosecuted with vigor. The timber reservation on the east and south of the Park has been placed under the "same rules and regulations as obtain within the Park;" in fact, it has become a part of the Park. A contract has been let for a survey of the lines of this addition. No work more useful for the protection of the Park has yet been undertaken. I hope another season will see the north and east lines carefully run and marked, and the greatest obstacle to the control and protection of the Park thus eliminated.

There are those who wish to cut off portions of the Park whenever selfish or mercenary interests ask it. As now constituted, including the timber reserve, it is devoted to the pleasure, the instruction, and the benefit of the whole people. The slightest encroachment upon its limits but opens the door to further dismemberment. I am positively opposed to all of these schemes, and particularly to the one known as the "segregation" bill, which proposes to hand over to the hundred or less inhabitants of Cooke City the most valuable section in the north part of the Park. I still adhere to the remarks on this subject in my report for the last year, to which I invite your attention. No more visionary scheme was ever conceived than that of running a railroad from Cinnabar to Cooke City for the poor mineral prospect that exists there.

The "promoters" of this scheme say that the mineral wealth of the district is "generally conceded," but no mining expert of reputation and character has ever reported otherwise than against it. The sworn testimony of Mr. T. F. Oakes, president of the Northern Pacific Railroad, on page 226, House Report No. 1956, first session Fifty-second Congress, says: "There is nothing in Cooke City mines, and we don't want a railroad there;" and further, that it would not be profitable to build a road there, and that he "did not want it." If such a concession is ever made, I trust it will be coupled with a condition that no part of the land shall be given over to other than railroad uses, and that it shall revert to the Park if the road is not completed within two years at the furthest. When the contractor for the survey of the timber reserve reaches here I purpose going with him to the initial point of his survey, "the easternmost point of Yellowstone Lake." I shall also go, if practicable, to the point 10 miles east of there, where he begins his boundary line. These points I desire should be well monumented, as it is not likely that any future dismemberment of the Park will change them.

PROTECTION OF FORESTS.

After two summers of remarkably good fortune in dealing with forest fires I have this year to report a most disastrous one. During the month of June the rainfall was but 0.38 inch, which is less than ever before recorded. In July, thus far, there has been practically no rain. The result is, all vegetation is dead and dry and ready for a conflagration on the slightest exposure. On July 10, about 1:20 p. m., I had a telegram from the corporal stationed at Norris, saying a fire had started there and he needed a half dozen men to help extinguish it. Lieut. Nance was at drill with the troop. I immediately stopped drill, and in less than half an hour a sergeant and six men were en route to the scene. Just as they left the post I received a supplementary telegram saying the fire was beyond control. I then ordered the balance of the troop to start at once, and ordered Capt. Scott down from the Lower Basin with his troop. All the available men of both troops have been watching and fighting this fire for more than two weeks night and day. It is, I believe, under control, and unless the wind should bring it up anew, I hope to be able to withdraw the soldiers in a day or two.

Capt. Scott and Lieut. Nance, with their men, deserve hearty thanks for energy and perseverance in fighting against it. How it started is not definitely known. It occurred on the roadside, about half a mile north of the Norris station. Capt. Scott, who has investigated the matter, believes it originated with the party building the new road at that point. The party had left work and gone to their dinner when the fire was discovered in the place they were last working. It is possible, however, that it originated in a cigar carelessly thrown from a coach by a passing tourist. Unless rains soon come there is grave danger of a repetition of the case, and should more than one fire rage at a time, it would be impossible to control them, and the entire Park would be liable to destruction.

It has been reported to me that men have been heard to say that they would burn over the entire Park in return for my opposition to the segregation scheme. I know there are men in the country of just such character, yet I have small fear that they will actually carry out their threats.

The country recently burned over is very irregular in outline, and extends northeast from the Norris Station about 7 miles, and in places is 2 miles or more in width. There have been other fires started, but all were extinguished before serious damage occurred. This experience has taught me the necessity of strictly enforcing the penalty of expulsion against everyone who fails to absolutely extinguish his fires.

OUTPOSTS.

The system of outposts is the same as last year, with slight addition of force at some of them. I am sorry to say that poaching has gone on in spite of them, but I have no doubt they have done much good. My great trouble is to get noncommissioned officers to put in charge of them who are able and disposed to cope with the class of men who form the poaching population. A few very well-known transgressors living near the south and west boundaries need close watching. I need at least two more scouts for this purpose, and a trip to that country by a special agent of the Department, sent out for the purpose, would be productive of great good.

MILITARY QUARTERS.

Since my last report the only change in the military quarters here is the erection of a hospital, which is now approaching completion. Troop D, Sixth Cavalry, was retained during the winter and contributed much toward the efficient protection of the Park. I renew my suggestion that barracks, mess room, and stables be erected, and that the garrison be increased by the addition of a company of infantry. I have already made application for this to the War Department, and I hope your influence will be exerted to accomplish the end.

ROADS.

Of the roads I can say but little, as I have no voice in their construction or maintenance. Late last autumn about a mile of new road was begun immediately to the north of Norris. I think this road will soon be completed.

A road was laid out and begun which passed for a short distance down the Gibbon River, and thus avoided the Canyon Creek hill. It will be a great improvement on the old road, and I hope will soon be taken up again and pushed to completion. Nothing of importance has been done on it yet this year.

Some small repairs have been put on the road between the Upper Basin and the Thumb, but the important part, the causeway along the lake, is as yet untouched.

The new road is being cleared of timber from the Thumb towards Lewis Lake, and I presume will soon be in condition to be driven over, although still far from being a good road. In the present very meager state of the appropriations I do not think anything more should be done to it for the present.

About half a mile of very beautiful road was located and begun last fall, passing by the brink of the Upper Falls. It is now being prosecuted slowly, and I presume will be open to travel by the close of the season. Lieut. Chittenden promised last October that it should be completed last June, but some unfortunate changes have operated to delay it. A third of a mile of driveway has also been opened near the Grand Canyon at Inspiration Point. These, I believe, comprise about all the improvements made from last year's appropriation.

At the opening of the season this year we were again confronted with a lack of funds for road repairs. This is one of the great evils of leaving the distribution of the money to one who resides so far from the work. The officer now in charge of road work has made, officially, a slighting remark about the "engineering experience" and "business methods essential to the economical and efficient expenditure of large sums of money." In face of all this I prefer to still remain the "police" officer, but to have some little say as to the direction in which the money shall be expended. A more leisurely reading of my last annual report would have shown that this is all I then asked for. The unfortunate relief of Lieut. Chittenden last spring has been a most serious blow to road building here. He was greatly interested in his work, tireless in his attentions to it, and ably equipped for it.

I renew the recommendation that the acting superintendent of the Park be given the control of the work, and that an officer of the Corps of Engineers be detailed to report to him to superintend it, make the detailed plans, and disburse the appropriations. The benefits that would result are too apparent to need explanation.

HOTELS.

The hotels are again managed by Mr. J. H. Dean, who has proved himself thoroughly fitted for the position. Considering the distance they are from the markets and the distance many of them are from the railroad, I regard them as excellent. The rates at all are fixed by the Department at $4 per day. After six days this rate is made $3 by the hotel management, with a view of inducing people to remain longer than the time necessary for the straight tour. But few take advantage of this reduction, as people generally arrive with their plans made for a trip of definite duration, and find it difficult to change these plans after they get here. The rooms are clean and comfortable, and the fare, though plain, is very good. The prices are lower than obtain in any of the first-class summer resorts of the country, and I see no reason why a "stay in the Park," rather than a "tour of the Park," should not be the rule. There is certainly much to interest and instruct the visitor at everyone of its hotels.

TRANSPORTATION.

The company of which Mr. S. S. Huntley is manager still has the lease for transportation privileges. Notwithstanding this fact outside parties by their system of "runners," giving false information and bad advice, secure a large share of the travel. The regular company has remarkably fine transportation. Their horses are well fed, well broken and safe, and vehicles and harness are excellent and well kept. Drivers as a rule, are competent, courteous, and sober. So long as this company is required to have an abundance of transportation of this kind for all the travel they should be protected in their rights to it. As stated previously, it can not be regarded as a monopoly when prices and conditions are arbitrarily imposed by the Department. The vexed question of stop-over privileges has been quite satisfactorily arranged by the stages starting out for the trip with a certain percentage of vacant seats, ready to pick up any passengers who may have remained behind on a previous tour. This has much reduced the complaints heretofore prevalent on this point. A tourist now has simply to notify the company of the day on which he wants to go forward, and a seat is provided for him.

A good many people continue to reach the Park via Beaver Canyon, on the Utah Northern Railroad (Union Pacific). Transportation on this route is furnished mainly by the Bassett Brothers. They hold no leases within the Park, nor have they, as I am aware, any authority under which their business is carried on. It is best for all interested that some one should hold a regular lease for transportation from that point to and through the Park; that he be required to have the same class of transportation as the regular company now has, and that he be protected in his efforts to maintain a high standard by having an exclusive right, with prices adjusted by the Department to a moderate rate of profit. To many, the most enjoyable way of seeing the Park is with a camping party. Others can not afford to see it in any other way. Hence, well-equipped and organized camping transportation is a necessity. Mr. Wylie has established such a line, and advertises regular excursions with fixed dates of start and return. To this part of his business I see no possible objection. He has, however, made application for leases to plots of ground in various parts of the Park whereon to establish permanent camps. The great objection to granting these

leases is the fact that a permanent camp is only a step removed from a shanty or a "shack," and it would be a desecration of the Park to allow such to spring up. Furthermore, we should recognize the right of those who come with their own transportation to use any unoccupied bit of ground for their camps.

I have recently posted a notice requiring camping parties to thoroughly police their camp grounds before leaving, but it has not been satisfactorily observed as yet. Perhaps a few expulsions for nonobservance will act as a stimulus.

BOAT ON THE LAKE.

The steamer continues to be satisfactorily run, and is greatly enjoyed by all tourists who make the trip on it. There are complaints that an extra fare is charged for the ride, but people who do not care to pay it have the option of going on the Lake Hotel from the Thumb in the regular coaches without extra price. If the amount of travel on the boat would warrant a reduction of fare, and the transportation company could make a small refund to those who used the boat, I believe all cause of complaint would be removed. The boat company keeps small boats and fishing-tackle enough to accommodate all who wish to make use of them to enjoy the unequaled sport on the lake. The addition of one or more launches would be a convenience, and probably prove remunerative.

ELEVATOR AT THE CANYON.

Mr. D. B. May has renewed his application for leave to place an incline or elevator in the Canyon, enabling people to make a descent to the bottom near the foot of the lower falls. To this project I am very strongly opposed. The elevator will be an unsightly object against the beautiful walls of the Canyon, will land its passengers where they can not get an extended view in any direction, and in my opinion will not prove a profitable venture. On inquiry I find more tourists who would not go down it if paid to do so than I find willing to pay for the trip.

TOURISTS.

Last year all names written or scratched on the beautiful geyser formations were erased. That made it possible to detect any new ones, and to apply needed discipline to the perpetrators of this foolish vanity. Several parties were arrested and sent back to erase their names, and the influence of these examples was excellent. It is worthy of note that a great majority of the names thus written are in a hand exhibiting lack of familiarity with writing implements. Specimen hunters also continue their vandalism, but with the careful watch kept by the soldier guards about the formations this trouble is kept at a minimum.

After the close of the Upper Basin Hotel last October someone—probably one of the help from the hotel, or one of the drivers who brought them out—broke a piece from the beautiful edge of the "Sponge geyser." I made every effort to discover the perpetrators, but without success. A remedy I should apply in future would be to prohibit any of these parties from ever again taking service within the Park. Camping parties continue to leave their fires unextinguished,

and for this, under a wise regulation, they are expelled from the Park. Several cases of the kind have occurred this year, and I have rigidly exacted the penalty.

I find tourists who complain, sometimes with reason, but oftener without a show of it. As an example of the latter class I cite a case that has just occurred. A man came through on a pass covering railroad and stage transportation and hotel bills. This was given him, I understand, because he was to write up the Park for some paper with which he was connected. At the lake he wandered off to fish, and when his stage was ready he was nowhere to be found. After a wait and a search the stage drove to the Canyon without him, but did take his baggage. He hired a conveyance for $2.50 from outside parties to take him to the Canyon, and then demanded that this money be repaid him by the regular transportation company. I doubt if any other case has occurred quite as illustrative as this one.

I have also to note that since this report was begun I have discovered a way of "scalping" Park tickets. A man buys a ticket for the tour at $60 from Livingston. One of the proprietors of outside transportation meets him and offers to take him through with a camping party and accepts the ticket for pay. The ticket is then held by the man who takes it up, until he finds a party who declines to go through with him. To this man he offers the regular ticket for $50. The result of this is that the "scalper" gets $50 for taking a man through with a camping outfit, and has a double chance at tourists. I have forbidden all persons caught at this work doing any further business within the Park.

The regulation promulgated last January forbidding firearms being carried in the Park without the written permission of the acting superintendent has been productive of much good, and its beneficial effects will increase as time goes on. Its execution adds much to the work of this office and of the outposts, but the result is worth the trouble. Some parties manage to escape detection until their tour is nearly or quite completed, but a room full of surrendered arms is testimony to the fairly efficient execution of the rule. Last summer Lieut. Chittenden collected some very interesting statistics which should come to your attention and receive publicity. To get an accurate expression of opinion, he took from the hotei register each day the name of one tourist at random, except that he never took one whom he knew personally. He thus got people from all parts of the country, from all stations in life, and of all occupations.

On October 22 he addressed to these people the three following questions:

First. What was the principal drawback to the enjoyment of your tour of the Park?

Second. From the experience of your own tour would you advise your friends to visit the Park?

Third. Assuming that there were a complete system of thoroughly macadamized or graveled roads, so constructed as to largely eliminate the mud and dust nuisance, and on which there would be no hills so steep that teams could not ascend them at a trot, and assuming also that there were a well-equipped electric railway covering substantially the same route, by which method would you prefer to make the tour of the Park—by coach or car?

Everybody took the greatest interest in giving full answers, and often went to some length to emphasize their disapproval of any scheme to put railroads of any kind in the Park. In nearly every letter other members of the party took occasion to add their views, so Lieut. Chit-

tenden got a good many more answers than he sent letters. About thirty letters never found their destination and were returned. The following is the vote:

First question, drawbacks: Roads, 91; hotels, 26 (Upper Basin and Norris complained of); transportation, 17; mosquitos and flies, 17; weather, 2; water, 2; steamboat charges, 2; no guides, 1; geysers failed, 1; no drawback, 24; no answer, 4.
Second question, advice as to visiting Park: Yes, 135; no, 2; no answer, 4,
Second question, coach or car: Coach, 145; car, 25.

A great many, however, said that they voted for the coach only on the condition of having roads as specified. With a majority of 6 to 1 against it, I believe the project for an electric road very undesirable.

FISH.

During the season fish are taken in the lakes and rivers in numbers almost passing belief. I would question the propriety of permitting the sport to go unchecked, were it not for the fact that their numbers are apparently undiminished.

All streams heretofore stocked with trout now furnish excellent fishing; probably no better exists anywhere.

Some months since I wrote the Commissioner of Fish and Fisheries concerning the advisability of stocking certain waters with black bass. In reply he informed me that a temperature of 65° was necessary for the spawn to hatch. I have had temperatures taken in these waters, showing temperatures in excess of 65°, and now have a promise from the Commissioner that the plant will be made as soon as he can arrange for it. He has also promised to make plants of the Eastern brook trout in Moose and Shoshone creeks.

WORK DONE IN THE PARK.

Few people would credit the fact that in my management of the Park I have only an allowance of a few hundred dollars each year for all expenses. Since my last report I have had authority to expend just $500, of which sum $150 still remains to my credit. All expended so far this year has been for policing camping places near the traveled roads. Last year I made some expenditures for repainting signboards and some for opening roads, but the meager allowance this year will not permit of such luxuries. There is, as you know, an appropriation for "constructing and repairing roads," but with this I have nothing to do. The only money allowed me for the complete management of the Park is the small rents collected from those who hold leases here. This, I believe, aggregates less than $1,000 per year. Such a sum annually for the protection of an area larger than the State of Connecticut is an absurdity that one needs only to mention. No State or city in the land would thus neglect the smallest of its public parks or reservations.

I trust you will find it in your power to secure from Congress an allowance with which I can make a beginning on the many bits of work that need attention. A great deal of work of all kinds is done by the troops, but it is neither right nor just that it should be so. Their duties are sufficiently numerous and onerous in protecting the Park from poachers and guarding the formations from the vandalism of specimen hunters, etc.

POACHERS.

As the game diminishes in the adjacent States, professional hunters and trappers become more bold and more active. Montana, Idaho, and Wyoming all have stringent game laws, but in spite of them the game grows rapidly less. In Montana no conviction has yet been had under the law, and I do not believe one is possible. In Idaho it is much the same. In Wyoming the law is more strictly enforced, and arrests and convictions frequently occur. A stringent law, with severe penalties, is one of the most urgent needs of the Park. In this immense area, surrounded by a very rough and densely timbered country, it is impossible to give our large game the protection that it should have. With the addition of two men as scouts and an occasional trip about the Park borders by a special agent of the Department much good could be accomplished. Nothing but a law with severe penalties will entirely break up the evil. Confiscation of the outfit, under existing regulations, has but little effect, as the outfit is generally worthless.

Bears are being trapped near all the boundaries. Beaver are still being trapped in all parts of the Park. Parties come into the Park in the spring on the pretense that they are seeking work on the roads or looking for team work. During the long wait involved they devote their time to trapping the fur-bearing animals, and it is almost impossible to catch them at it. I suggest as a remedy that no one, except those having leases or contracts in the Park, be allowed to camp in one place for more than two days. Of course exceptions could be made in cases of well-proven necessity. I have pretty reliable information that about a dozen buffalo were killed last winter, and it is not improbable that even more shared that fate. The heads of these were mounted by taxidermists in Livingston and Bozeman, notwithstanding the law that declares the possession of such parts prima facie evidence that the possessor killed the animals within the State. It would be a great assistance to me in the preservation of the game if some authorized person would begin prosecution of these dealers. Conviction probably would not be had, but the annoyance to them and the publicity of the cases would have good effect.

GAME.

Buffalo.—The buffalo have been seen often during the year, and they appear to be doing well. In all the herds a fair proportion of calves is found. Those killed have been mostly bulls, so the capacity of the herds for increase has not been diminished. Late in June a herd of fifty to sixty crossed the road from west to east near the Riverside Geyser. Thirteen calves were counted. They were very tame, and not the least scared by the soldiers who went among them. The estimate of four hundred placed on their number last year is surely not too high.

Moose.—Within the past year a good many moose have been seen near the outpost on Snake River. In June a band of seven, with three calves, was seen in that vicinity, and others have been seen all along the south line. The establishment of that station has done much to protect them.

Mountain sheep.—These animals are found in several parts of the Park, but the most of them are near the north line. A fine bunch winters each year on Mount Everts, not more than 2 miles from this point. I saw them several times last winter, and one day in February

I drove within 75 yards of about a dozen, and they paid not the slightest attention to me. Segregation would result in the destruction of the herd in the northeast corner of the Park, which is probably the largest one anywhere remaining.

Elk.—For some reason the elk did not winter in the Hayden Valley in the same numbers as formerly. There were abundant signs of them in the autumn, and they reappeared again in the spring. Perhaps many of them staid in the open valley of the Pelican. The usual large herd wintered in the valley of the East Fork, between Yancy's and Soda Butte. I still believe that there are 25,000 in the Park. While fighting the fire at Norris a few days ago the men saw a herd of about eighty with a large number of calves.

Bears.—The bears do not appear so numerous this year as formerly, although they are constantly being seen near the hotels. It is quite probable that the camping parties to which I have referred have trapped some of them out.

Antelope.—A herd of about four to five hundred wintered on Mount Everts and became very tame. They often approached the town of Gardiner to within a few hundred yards. There were one or two smaller herds in other parts of the Park.

Deer.—This spring I saw more deer than usual, and they are very tame. They are doubtless increasing rapidly.

Beaver signs are multiplying, and over large areas they receive fair protection. A beaver trap is so easy to set, and so difficult for one not knowing its whereabouts to find, that complete protection is impossible. The skins have become so valuable as to make this industry very remunerative.

Wolverines, badgers, porcupines, otters, and other animals are increasing rapidly and are often very tame. Ducks and geese breed in the Park in great numbers, and are not scared by the near approach of travelers.

CAPTURE OF ANIMALS.

The animals mentioned in my last report, with several others collected later, were sent to the National Zoölogical Park in Washington last November. I now have awaiting shipment four elk, one deer, three beavers, one badger, and one porcupine, besides a cage of smaller animals. During the season I hope to secure enough to quite fill a car. It would be a matter of great interest to tourists if I had the funds with which to erect an inclosure and put into it some specimens of the game animals here native. Some provision would have to be made for feeding them in the winter, but the expense would be very small. Elk, deer, and buffalo could easily be secured, and probably antelope, moose, and mountain sheep.

RECOMMENDATIONS.

First. The passage of an act defining the boundaries as recommended last year.

Second. The enactment of a law giving the Park a system of government.

Third. Complete the survey and the marking of the boundary lines.

Fourth. Transfer to the superintendent the disposal of the funds for road work.

Fifth. Liberal appropriations with which to complete the road system as approved.

Sixth. Appropriations for clearing out dead timber, collecting and keeping wild animals and in general for all means of preserving, protecting, and beautifying the Park.

Seventh. Provide accommodations for a company of infantry, to be made a part of the permanent garrison here.

These recommendations are for the most part a repetition of those made last year. My estimate of their importance leads me to again call your attention to them. I anticipate much benefit to the Park from your recent tour of it.

I extend my thanks to Capt. Scott, Sixth Cavalry, for the deep interest manifested by him in all that concerns the Park, and for his constant and tireless labors for its protection.

I am indebted to Surg. C. M. Gandy, U.S. Army, for the meteorological record hereto appended.

Yours, very respectfully,

GEO. S. ANDERSON,
Captain Sixth Cavalry,
Acting Superintendent Yellowstone National Park.

The SECRETARY OF THE INTERIOR.

Meteorological register.

JULY, 1892.							AUGUST, 1892.						
Date.	Maximum.	Minimum.	Range.	Winds.	Precipitation.	Remarks.	Date.	Maximum.	Minimum.	Range.	Winds.	Precipitation.	Remarks.
1	55	40	15	N.	0.10	Rain.	1	90	54	36	S.	.....	
2	62	45	17	S.	.....		2	82	55	27	S.	.....	
3	66	41	25	S.	.....		3	86	51	35	SW.	.....	
4	81	46	35	S.	.....		4	87	53	34	S.	0.07	Rain.
5	84	52	32	SW.	.....		5	82	46	36	S.	.....	
6	81	51	30	S.	0.13	Rain.	6	83	49	34	S.	0.06	Rain.
7	70	52	18	NW.	.....		7	81	53	28	S.	0.27	Rain.
8	76	46	30	SW.	.....		8	62	48	14	SW.	0.07	Rain.
9	76	57	19	S.	0.75	Rain.	9	75	38	37	SW.	.....	
10	76	56	20	S.	.....		10	83	44	39	S.	.....	
11	68	52	16	S.	.....		11	82	57	25	S.	.....	
12	72	50	22	S.	.....		12	76	50	26	SW.	.....	
13	74	50	24	NW.	.....		13	85	41	44	S.	.....	
14	74	49	25	NW.	.....		14	87	50	37	S.	.....	
15	81	53	28	SW.	.....		15	91	49	42	S.	.....	
16	82	51	31	SW.	.....		16	85	54	31	S.	.....	
17	72	61	11	SW.	.....		17	71	52	19	N.	.....	
18	81	50	31	SW.	.....		18	80	36	44	S.	.....	
19	88	63	25	S.	.....		19	73	49	24	N.	.....	
20	89	51	38	S.	.....		20	65	41	24	N.	.....	
21	85	50	35	S.	.....		21	79	38	41	N.	.....	
22	80	50	30	SW.	.....		22	70	47	23	NE.	0.02	Rain.
23	74	38	36	SE.	.....		23	80	37	43	S.	.....	
24	75	42	33	S.	.....		24	62	44	18	N.	.....	
25	76	39	39	S.	.....		25	65	42	23	N.	.....	
26	81	46	35	S.	.....		26	74	32	42	S.	.....	
27	62	45	17	N.	.....		27	50	39	11	N.	0.15	Rain.
28	72	36	36	S.	.....		28	55	32	23	NW.	.....	
29	78	45	33	W.	.....		29	75	30	45	S.	.....	
30	80	84	36	S.	.....		30	77	42	35	S.	.....	
31	86	47	39	SW.	.....		31	79	43	36	S.	.....	
Total..	2,359	1,498	861	.....	.....		Total..	2,372	1,396	976	.....	.....	
Mean ...	76.10	48.32	27.77	S.	0.98		Mean ...	76.52	45.03	31.48	S.	0.64	

Maximum, 89, 20th instant; minimum, 36, 28th instant; monthly mean, 62.20; total precipitation 0.98; wind, south.

Maximum, 91, 15th instant; minimum, 30, 29th instant; mean, 60.77; total precipitation, 0.64; wind, south.

Meteorological register—Continued.

SEPTEMBER, 1892.

Date.	Maximum.	Minimum.	Range.	Winds.	Precipitation.	Remarks.
1	73	47	26	S.	0.60	Rain.
2	55	42	13	NW.	0.08	Rain.
3	65	37	28	W.	.....	
4	75	38	37	S.	.....	
5	77	37	40	S.	.....	
6	76	46	30	S.	.....	
7	62	38	24	N.	.....	
8	72	32	40	S.	.....	
9	68	42	26	N.	.....	
10	63	41	22	NW.	.....	
11	75	29	46	S.	.....	
12	78	37	41	S.	.....	
13	79	36	43	S.	.....	
14	79	37	42	S.	.....	
15	82	39	43	S.	.....	
16	78	42	36	S.	.....	
17	71	43	28	S.	.....	
18	75	41	34	S.	.....	
19	76	39	27	S.	.....	
20	55	43	12	S.	.....	
21	60	38	22	S.	.....	
22	55	40	15	S.	0.25	Rain.
23	54	47	7	S.	0.16	Rain.
24	50	30	20	N.	0.40	Snow.
25	67	40	27	S.	.....	
26	74	40	34	SW.	.....	
27	73	43	30	SW.	.....	
28	76	40	36	S.	.....	
29	75	51	24	S.	.....	
30	73	47	26	S.	0.11	Rain.
Total	2,091	1,202	889	.....	.....	
Mean	69.70	40.07	29.63	S.	01.60	

Maximum, 82, 15th instant; minimum, 29, 11th instant; mean, 54.73; total precipitation, 1.60; wind, south.

OCTOBE R, 1892.

Date.	Maximum.	Minimum.	Range.	Winds.	Precipitation.	Remarks.
1	50	45	5	SW.	0.22	Rain.
2	66	35	31	S.	0.02	Rain.
3	71	35	36	S.	.....	
4	69	34	35	SW.	.....	
5	68	38	30	S.	.....	
6	66	39	27	SW.	.....	
7	68	31	37	S.	.....	
8	71	38	33	S.	.....	
9	60	40	20	SW.	.....	
10	51	40	11	SW.	.....	
11	34	30	4	NW.	0.41	Sleet.
12	41	28	13	N.	0.10	Snow.
13	54	25	29	N.	.....	
14	59	31	28	SW.	.....	
15	51	30	21	SW.	.....	
16	39	29	10	N.	.....	
17	30	20	10	S.	.....	
18	34	26	8	S.	.....	
19	40	23	17	N.	0.02	Snow.
20	51	19	32	S.	0.02	
21	53	22	31	S.	.....	
22	58	23	35	S.	.....	
23	54	23	31	N.	.....	
24	52	20	32	SW.	.....	
25	52	21	31	N.	.....	
26	61	24	37	S.	.....	
27	60	31	29	S.	.....	
28	57	27	30	S.	.....	
29	53	30	23	S.	.....	
30	57	23	34	S.	.....	
31	41	31	10	SW.	.....	
Total..	1,671	911	760	.....	.....	
Mean....	53.90	29.39	24.52	S.	.79	

Maximum, 71, 8th instant; minimum. 19, 20th instant; mean, 41.65; total precipitation, 0.79; wind south.

Meteorological register—Continued.

NOVEMBER, 1892.

Date.	Maximum.	Minimum.	Range.	Wind.	Precipitation.	Remarks.
1	46	25	21	N.	0.14	Snow.
2	35	20	15	N.	0.05	Snow.
3	37	29	8	N.	0.20	Snow.
4	46	35	11	S.	.....	
5	47	34	13	S.	0.32	Rain.
6	28	24	4	N.	0.05	Snow.
7	28	8	20	S.	.....	
8	27	19	8	S.	0.07	Snow.
9	40	14	26	S.	.....	
10	41	31	11	S.	.....	
11	49	33	16	S.	.....	
12	45	35	10	N.	.....	
13	37	21	16	S.	.....	
14	31	28	3	N.	.....	
15	24	15	9	SW.	.....	
16	21	19	2	N.	.....	
17	25	8	17	SW.	.....	
18	32	19	13	S.	.....	
19	40	31	9	S.	.....	
20	35	21	14	S.	.....	
21	40	31	9	S.	.....	
22	46	35	11	S.	.....	
23	41	38	3	SW.	0.17	Rain.
24	28	10	18	N.	0.35	Snow.
25	20	6	14	NE.	.....	
26	23	13	10	S.	.....	
27	26	19	7	S.	.....	
28	33	24	9	S.	.....	
29	38	30	8	E.	0.40	Snow.
30	41	33	8	S.	0.15	Snow.
Total	1,050	707	343	.....	.....	
Mean	35.00	23.57	11.43	S.	1.90	

Maximum, 49. 11th instant; minimum, 6, 25th instant; mean, 29.28; total precipitation, 1.90; wind, south; total depth of snow fall, 14.25 inches.

DECEMBER, 1892.

Date.	Maximum.	Minimum.	Range.	Wind.	Precipitation.	Remarks.
1	30	18	12	SW.	0.35	Snow.
2	35	20	15	S.	.....	
3	40	33	7	S.	.....	
4	33	28	5	S.	0.40	Snow.
5	25	16	9	N.	.....	
6	18	2	16	N.	0.12	Snow.
7	13	−4	17	N.	.....	
8	19	5	14	S.	.....	
9	18	3	15	S.	.....	
10	17	7	10	S.	.....	
11	11	−7	18	SW.	.....	
12	17	3	14	SW.	.....	
13	15	5	10	N.	.....	
14	11	−8	19	N.	.....	
15	19	9	10	S.	0.40	Snow.
16	16	13	3	N.	0.20	Snow.
17	15	−1	16	N.	.....	
18	20	11	9	S.	0.25	Snow.
19	10	4	6	N.	0.12	Snow.
20	−2	−13	11	N.	.....	
21	−6	−14	8	E.	0.10	Snow.
22	25	−10	35	W.	0.16	Snow.
23	34	24	10	S.	.....	
24	38	33	5	S.	.....	
25	36	32	4	S.	.....	
26	37	25	12	S.	.....	
27	36	30	6	S.	.....	
28	22	16	6	N.	0.07	Snow.
29	21	19	2	S.	.....	
30	19	4	15	S.	.....	
31	23	15	8	S.	.....	
Total	665	318	347	.....	.....	
Mean	21.45	10.26	11.19	S.	2.17	

Maximum, 40; 3d instant; minimum, −14, 21st instant; mean, 15.85; total precipitation 2.17; wind south; total depth of snowfall, 20.05 inches.

Meteorological register—Continued.

JANUARY, 1893.

Date.	Maximum.	Minimum.	Range.	Wind.	Precipitation.	Remarks.
1	32	19	13	W.	.....	
2	34	24	10	W.	.....	
3	36	24	12	SW.	.....	
4	40	26	14	SW.	.....	
5	34	18	16	W.	.....	
6	35	19	16	N.	.....	
7	24	8	16	N.	.....	
8	36	15	21	S.	.....	
9	30	9	21	SE.	.....	
10	29	24	5	SW.	0.09	Snow.
11	23	19	4	N.	.....	
12	24	6	18	S.	.....	
13	19	11	8	N.	0.11	Snow.
14	12	4	8	N.	.....	
15	4	−13	17	NW.	.....	
16	12	−10	22	N.	.....	
17	17	− 3	20	NW.	.....	
18	24	13	11	S.	.....	
19	22	8	14	S.	.....	
20	25	8	17	S.	.....	
21	29	13	16	S.	.....	
22	30	18	12	SE.	.....	
23	31	20	11	S.	.....	
24	28	19	9	SW.	.....	
25	20	− 1	21	N.	0.18	Snow.
26	29	−10	39	S.	.....	
27	33	− 5	38	S.	0.45	Snow.
28	19	−14	33	S.	0.62	Snow.
29	21	12	9	SE.	0.17	Snow.
30	18	5	13	SE.	0.20	Snow.
31	9	−28	37	SE.	.....	
Total..	779	258	521	.....	.....	
Mean....	25.13	8.32	16.81	S.	1.82	

Maximum, 40, 4th instant; minimum, 28, 31st instant; mean, 16.72; total precipitation, 1.82. Wind south; total depth of snowfall, 18.35 inches.

FEBRUARY, 1893.

Date.	Maximum.	Minimum.	Range.	Wind.	Precipitation.	Remarks.
1	10	−16	26	SE.	.....	
2	9	2	7	SE.	.....	
3	33	5	28	S.	0.20	Snow.
4	31	22	9	S.	0.15	Snow.
5	23	15	8	S.	0.12	Snow.
6	17	− 5	22	N.	.....	
7	23	1	22	SW.	.....	
8	20	7	13	SW.	0.10	Snow.
9	22	12	10	SE.	.....	
10	25	14	11	S.	.....	
11	27	3	24	S.	.....	
12	32	22	10	S.	.....	
13	19	14	5	N.	.....	
14	15	−11	26	SW.	.....	
15	26	9	17	S.	.....	
16	29	16	13	S.	.....	
17	35	17	18	S.	.....	
18	33	12	21	SW.	.....	
19	36	12	24	S.	.....	
20	38	13	25	S.	0.10	Snow.
21	24	21	3	N.	.....	
22	31	12	19	N.	.....	
23	28	13	15	S.	.....	
24	20	5	15	SW.	.....	
25	29	5	24	N.	.....	
26	11	4	7	N.	0.12	Snow.
27	10	−10	20	N.	.....	
28	11	− 7	18	N.	.....	
Total..	667	207	460	.....	.....	
Mean..	23.82	16.43	7.39	S.	0.79	

Maximum, 38, 20th instant; minimum, −16, 1st instant; mean 20.12; total precipitation, 0.79; Wind, south; total depth snowfall, 8 inches.

Meteorological register—Continued.

MARCH, 1893.

Date.	Maximum.	Minimum.	Range.	Wind.	Precipitation.	Remarks.
1	21	2	19	S.	.....	
2	28	8	20	S.	.....	
3	29	—3	32	S.	.....	
4	37	4	33	S.	.....	
5	29	7	22	SW.	0.10	Snow.
6	36	20	16	S.	.....	
7	36	5	31	S.	.....	
8	33	11	22	S.	.....	
9	29	25	4	S.	.....	
10	20	13	7	N.	.....	
11	29	15	14	S.	.....	
12	25	20	5	N.	.....	
13	26	9	17	N.	.....	
14	32	4	36	S.	.....	
15	33	11	22	S.	.....	
16	27	10	17	S.	0.17	Snow.
17	32	12	20	S.	.....	
18	35	19	16	SE.	.....	
19	28	24	—4	N.	.....	
20	32	9	23	N.	.....	
21	28	21	7	SW.	0.32	Snow.
22	32	15	17	N.	0.15	Snow.
23	33	16	17	N.	.....	
24	35	18	17	S.	.....	
25	33	23	10	N.	.....	
26	36	26	10	S.	0.10	Snow.
27	37	16	21	S.	.....	
28	50	28	22	S.	.....	
29	54	36	18	S.	.....	
30	43	38	5	N.	.....	
31	35	25	10	S.	0.12	Snow.
Total..	1,013	479	534	.....	.....	
Mean..	32.68	15.45	17.23	S.	0.96	

Maximum, 54, 29th instant; minimum, —4, 14th instant; mean, 24.06; total precipitations, 0.96; wind, south; total depth of snowfall, 9.75 inches.

APRIL, 1893.

Date.	Maximum.	Minimum.	Range.	Wind.	Precipitation.	Remarks.
1	33	23	10	N.	0 25	Snow.
2	45	31	14	S.	.....	
3	42	31	11	S.	.....	
4	45	33	12	S.	.....	
5	52	32	20	S.	.....	
6	43	31	12	N.	.....	
7	28	24	4	N.	.....	
8	35	13	22	N.	.....	
9	33	18	15	S. W.	.....	
10	37	20	17	S.	.....	
11	33	25	8	S. E.	0.12	Snow.
12	31	19	12	N.	0.07	Snow.
13	35	17	18	N.	0.02	Snow.
14	38	23	15	S.	.....	
15	37	13	24	S.	.....	
16	43	20	23	S.	.....	
17	44	29	15	S.	.....	
18	31	20	11	N.	.....	
19	35	12	23	N.	.....	
20	46	28	18	N.	0.20	Snow.
21	33	8	25	S.	.....	
22	51	36	15	S.	.....	
23	46	37	9	S.	.....	
24	32	23	9	N.	0.16	Snow.
25	40	23	17	N.	.....	
26	38	29	9	N.	0.15	Snow.
27	28	23	5	N.	.....	
28	40	12	28	N.	.....	
29	41	16	25	N.	.....	
30	48	18	30	S.	.....	
Total..	1,163	687	476	.....	.....	
Mean..	38.77	22.90	15.87	N.	0.97	

Maximum, 52, 5th instant; minimum, 8, 25th instant; mean, 30, 83; total precipitation, 0.97; winds, north; total depth of snowfall, 9.80 inches.

Meteorological register—Continued.

MAY, 1893.

Date.	Maximum.	Minimum.	Range.	Wind.	Precipitation.	Remarks.
1	50	22	28	S.	.....	
2	48	30	18	S.	.....	
3	35	33	2	N.	0.23	Rain.
4	46	27	19	S.	.....	
5	40	26	14	S.	.....	
6	54	28	26	N.	.....	
7	65	27	38	S.	.....	
8	72	31	41	S.	.....	
9	60	37	23	S.	0.05	Rain.
10	43	35	8	N.	0.08	Snow.
11	63	26	37	S.	.....	
12	67	37	30	S.	.....	
13	68	32	36	S.	.....	
14	72	34	38	S.	.....	
15	75	37	38	S.	.....	
16	76	45	31	S.	.....	
17	65	46	20	S.	.....	
18	40	33	7	N.	.....	
19	51	28	23	N.	.....	
20	53	34	19	N.	.....	
21	40	35	5	N.	.....	
22	50	31	19	N.	.....	
23	39	29	10	N.	0.20	Snow.
24	37	28	9	N.	.....	
25	33	27	6	N.	.....	
26	48	22	26	S.	.....	
27	60	25	35	S.	.....	
28	61	31	30	S.	.....	
29	51	39	12	S.	0.18	Rain.
30	58	28	30	S.	0.27	Snow.
31	51	38	13	S.	.....	
Total..	1,671	980	691	.....	.....	
Mean..	53.90	31.61	22.29	S.	1.01	

Maximum, 76, 16th instant; minimum, 22, 26th instant; mean, 42.65; total precipitation, 1.01; wind, south; total depth of snowfall, 4.70 inches.

JUNE, 1893.

Date.	Maximum.	Minimum.	Range.	Wind.	Precipitation.	Remarks.
1	58	36	22	NW.	.....	
2	50	36	14	NW.	0.07	Rain.
3	54	30	24	N.	0.05	Rain.
4	52	22	30	N.	.....	
5	62	34	28	W.	.....	
6	76	36	40	NW.	.....	
7	68	37	31	W.	.....	
8	65	39	26	W.	.....	
9	74	46	28	SW.	.....	
10	80	52	28	S.	.....	
11	75	61	14	W.	.....	
12	77	49	28	N.	.....	
13	51	38	13	NW.	0.20	Rain.
14	57	40	17	NE.	.....	
15	67	49	18	E.	.....	
16	77	51	26	W.	.....	
17	79	46	33	S.	.....	
18	76	50	26	SW.	.....	
19	72	40	32	NE.	.....	
20	65	35	30	W.	.....	
21	68	33	35	S.	0.06	Rain.
22	77	38	39	SW.	.....	
23	77	41	36	W.	.....	
24	68	36	32	W.	.....	
25	76	38	38	S.	.....	
26	79	40	39	S.	.....	
27	76	42	34	S.	.....	
28	65	40	25	SW.	.....	
29	65	40	25	SW.	.....	
30	75	36	39	S.	.....	
Total .	2,061	1,211	850	.....	.....	
Mean ...	68.70	40.37	28.33	W.	0.38	

Maximum, 80, 10th instant; minimum, 22, 4th instant; mean, 54.73; total precipitation, 0.38; wind, west.

REPORT

OF THE

ACTING SUPERINTENDENT OF THE SEQUOIA AND GENERAL GRANT NATIONAL PARKS.

CAMP AT MINERAL KING,
Tulare County, Cal., August 26, 1893.

SIR: Agreeably to your request under date of the 18th of July, I have the honor to submit the following report of operations in the Sequoia and General Grant National Parks since I assumed control.

I was informed by letter from the Department of the Interior of April 20 that I had been designated as acting superintendent of the Sequoia and General Grant national parks. On June 6, in compliance with Special Orders No. 44, Headquarters Department of California, I started for my post of duty, being in command of Troop B, Fourth Cavalry, comprising 2 officers, 50 men, 2 packers, 2 teamsters, and a complement of wagons and pack mules.

On June 20, after a march of 280 miles, I arrived at Three Rivers, Tulare County, Cal., when I took charge of the park.

The season was very late in the Sequoia Park. The heavy snows of the preceding winter still lay on the mountains, and the numerous swift streams were difficult, and in many cases impossible, to cross. The road to Mineral King was blocked with snow, the Hockett Meadow country was covered, and access to the Giant Forest and the northern part of the park was difficult if not impossible.

While for some weeks this prevented patrolling by the troops in the higher levels of the park, it largely did away with the necessity for such patrolling, since it also made it certain that no intrusions by sheep and cattle had taken place. Grant Park, however, was open, and a detachment of 3 men, under Sergt. Wilson, was sent to occupy it on June 26.

Before detailing further operations a short description of the parks would not be out of place, and is necessary to supplement the explanations of the peculiar features of the region given by my predecessor.

Sequoia Park is a tract 24 miles long, by from 6 to 12 miles broad. A glance at the map accompanying will show that it is shaped like a letter Z. It consists of seven townships, each 6 miles square. Four of these townships form the upper branch of the Z, two townships the lower branch, and one township the connecting branch. The center of the park is narrowest, being but 6 miles across.

Generally speaking, the Sequoia Park may be said to be composed of three great mountain masses, each totally distinct from the others, and

to all intents and purposes inaccessible from the others except by making a long detour outside the park. These are, first, the portion south of the canyon of the East Fork, or the Hockett Meadow country; second, the portion between the canyon of the East Fork and of the Middle Fork or the Castle Rocks country; third, the portion north of the canyon of the Middle Fork, or the North district.

Trails there are, indeed, passing from one to the other of these divisions inside the park, but trails hardly worthy of that designation, so steep are they, overgrown by bushes and tenacious undergrowth, rocky, dangerous to life and limb, and difficult and tedious to traverse. These trails formerly were beaten down and kept open by cattle, but since the exclusion of cattle from the park they are difficult to find, washed out, overgrown, and rapidly becoming totally impassable.

Looking at these peculiarities in the conformation of the park, its peculiar shape, taking in sections of territory entirely separate, distinct, and inaccessible one from the other, it is difficult to understand why the park was laid out in this fashion and for what purpose.

Another peculiarity: No place exists within the confines of the park where it is practicable to obtain a fair camp for troops accessible by wagons. The only practicable wagon road which reaches the park runs through the canyon of the East Fork on steep side slopes all the way, and the remarkable spectacle is afforded of the troops detailed to guard the park being obliged to establish their main camp on land outside the park, land which is sometimes owned by private parties and which is occupied by the troops at their will and pleasure.

It is easy to see how these peculiarities increase enormously the difficulties of patrolling and guarding the park. The main, or supply, camp must be established on a wagon road, since it is by wagons alone that the great quantities of forage and rations necessary can be delivered at the camp, the energies of the small force of pack animals being sufficiently taxed in distributing supplies thence to the outposts.

This main camp must be either at or near Three Rivers or near Mineral King, either on the east side or the west side of the park. A detachment is necessary to guard Grant Park, another to guard the northern district, another to guard the southern district. These outposts at from two to four days' march from the main camp, are reached by difficult trails, and supplied by the pack trains. A troop of fifty men, detailed to guard the park, must thus be divided into one large detachment and three or four small ones, about one-half of the troop being thus detached.

THE GIANT FOREST ROAD.

These difficulties of guarding the park could be greatly decreased by the establishment of a road to the Giant Forest. Such a road would make it possible to have the main camp there. It is not only a central point, and a most desirable place for a camp, but it would insure the protection and preservation of that one great curiosity of the park.

The Giant Forest is probably the most magnificent body of timber in the world. It occupies an area of about 3 miles square, on an elevated plateau east of the Marble Fork. It is a continuous, dense forest of splendid trees, mainly red wood and sugar pine; nearly all these trees towering 300 feet or more above the ground, dwarfing by their majesty even the hills they stand upon. The giant sequoia here attains its finest growth and greatest dimensions, and one experiences a sense of mingled awe and amazement, standing beside these tremendous trunks, 15 to 25 feet in diameter, to gaze up the long shaft to where,

higher than the highest church steeples, the first branches leave the trunk, and higher yet to where the delicate tracery of the leaves seem to pierce the very heavens. This is the great point of interest of the Sequoia Park. To preserve this beautiful creation, this remarkable natural curiosity, to keep it intact for the pleasure and profit of its citizens, the Government established this park, this place of resort, for the word "park" admits of no other definition. That was well enough in its way, but having protected this natural curiosity, some way should now be provided to reach it. Not only is this not at present the case, but owing to the neglect of the Government the Giant Forest is not nearly as accessible as formerly. The Government has allowed the wagon road, which formerly led to a point 9 miles from the forest, to go to ruin, so that now it is impossible to get with a wagon to a point nearer than 19 miles distant, the 10 miles of this road intervening being so washed out as to be scarcely passable for pack mules. So inaccessible is the Giant Forest now, that during the whole of the present season, up to date, only two parties of visitors have entered it. The Government when it established the park took possession of this road, which had just been completed, failed to reimburse the builders, and allowed it to go to ruin, thus cutting off access to the very feature which it proposed to secure to the public.

This road, the Kaweah Colony road, runs up the North Fork from near Three Rivers for 10 miles, where it leaves the river and enters the park. It is narrow, but was laid out with rare engineering skill, ascending by an easy grade along the slopes of Ash Mountain, 10 miles further to the Colony sawmill. This point is 2 miles in a direct line, 9 miles by trail, from the Giant Forest. It is said that this road cost the Kaweah Colony $30,000, and it is certainly true that its virtual confiscation by the Government wrecked the association and impoverished its members. It is a pity, for the park would have lost none of its value and picturesqueness if township 16 S., R. 29 E., which this road traverses, had been not included in the reservation. This township is brushy, rocky, and barren, except a small strip of pine near its eastern boundary. If it had been left unincluded the Colony road would, without doubt, have been kept in a state of repair, and the forest would now be accessible to the traveler.

The people of this vicinity say very truly that it is well that Mineral King was not included in the reservation, or no part of the park would now be accessible save by trail, the Mineral King road being now kept up by the county.

APPROPRIATION FOR THE GIANT FOREST ROAD.

I beg leave to call the particular attention of the honorable Secretary to this very important matter. The Government has reserved this park, and if it is to be held as a park it should be made accessible. A large amount of money—sometimes as much as $75,000—is appropriated each year for the Yellowstone Park. The Yosemite Park has toll roads, built and kept in order by incorporated companies. Both these parks have been made accessible. Not a cent has ever been appropriated for the improvement of the Sequoia Park. As it can not be expected that toll roads will be established here, at least for the present, an immediate and liberal appropriation is necessary, in order that this park may fulfill the design of those who established it.

The Colony road from the crossing of the main Kaweah, near Three Rivers, to the old sawmill, is 20 miles in length. An iron bridge is

needed across the Kaweah near three Rivers. For four miles from this point the road is fairly good. A wooden bridge is there needed across the North Fork. For the next six miles the road requires but slight mending as far as Ha ha Falls. Thence to the sawmill the road is in a bad state. In places the retaining wall has fallen; in others small landslides have come down from the upper bank, depositing dirt on the road. Nearly everywhere great ruts have formed, which the rains of each winter increase in size. Probably $300 per year would have sufficed to keep this road in the condition it was in when troops first came here. But it has gone from bad to worse; even now extensive repairs are necessary to prevent its washing away altogether. From a careful inspection of the road, I am of opinion that $5,000 are needed to put it in good condition. The bridges are needed to make the road available before the 1st of July, when the rivers subside sufficiently to be forded. These two bridges will cost about $4,000.

From the Colony sawmill to the Giant Forest is a distance in a direct line of 2 miles, by trail 9 miles. The canyon of the Marble Fork, 3,000 feet deep, intervenes. To cross this canyon a road 15 miles long, at a cost of $30,000, is necessary. It is recommended that an officer of the Engineer Corps of the Army be detailed to make the necessary preliminary surveys of this road.

THE NORTHERN DISTRICT.

From the Giant Forest there is access by comparatively easy trails to the different parts of the northern district of the park (except on the west, where the bushy and rocky country bordering the northern part of the canyon of the North Fork is almost impossible to traverse). This northern section of the park is as a rule a picturesque, interesting country, well watered and timbered, mountainous, with frequent meadows, affording fine feed for horses. The numerous fine streams in this country are naturally well fitted for trout, but unfortunately have never been stocked. With a road to the Giant Forest and plenty of trout in these streams, this would be a delightful resort. I am in correspondence with the U. S. Fish Commission on the subject of stocking these streams. I have also been promised by the Sportsmen's Club, of Visalia, a small number of trout, which, if obtained, I propose to plant this fall. I also have written to the California State fish commission without success. In case other resources fail, I propose to obtain a few young trout in September from the North Fork and place them in the tributaries of the Marble Fork. Numerous high falls have prevented the fish from ascending the Kaweah River to this elevated country. This country was guarded this summer by a patrol under command of Second Lieut. Rutherford, Fourth Cavalry, their camp being at Halstead Meadows. In consequence of the thorough and conscientious work of my predecessor, Capt. Dorst, Fourth Cavalry, and his command during the last two years, sheep and cattle men have religiously respected the boundaries of the park thus far this season. But one or two small bands of sheep have up to date come within the park, and that only for a few hours, probably by accident.

THE CENTRAL DISTRICT.

This is little else than a sharp mountain ridge between the Middle Fork and the East Fork. It is well timbered and has a few meadows, necessitating an occasional visit by patrols to keep off sheep and cattle.

This mountain ridge and the canyons on the north and south sides are at present an almost impassable barrier to direct communication between the north and south districts. A trail should be cut from the Giant Forest to Hockett Meadows in the southern district. With an appropriation of $3,000 for rock-blasting, etc., supplemented by the labor of the troops, it is believed a fair trail could be constructed. If the limits of the park are not extended, this trail is urgently needed. The only way to prevent further intrusions by a band of cattle, which is constantly drifting on to the park, and at the same time punish the owners, is to drive the cattle across the park and out on the other side. A trail leading through the park is necessary for this purpose, for the cattlemen could and would resist any attempt to drive the cattle into the park after having driven them out; which would be the case if, for instance, it were attempted to drive a band of cattle from Hockett Meadows via Three Rivers to the northern boundary of the park.

THE SOUTHERN DISTRICT.

This is a well-watered, well-timbered country lying south of the East Fork. A considerable portion of it consists of a high plateau easily traversed. Its natural boundaries, however, consist of very steep and rocky canyons. It abounds with large, grassy meadows, and fine trout streams, well stocked with fish. On account of its altitude and the amount of snow lying there, this part of the park was not occupied by troops until July 22, since when it has been kept constantly patrolled by First Lieut. Alexander T. Dean and his detachment. No sheep or cattle have thus far intruded into this part of the park. It is reached by a very steep, difficult trail via the South Fork, 26 miles from Three Rivers to Hockett Meadows, or preferably by an easier trail via Mineral King, 18 miles to Hockett Meadows. An appropriation of $200 for blasting powder and tools would make it possible to construct a good trail from Hockett Meadows to Mineral King, 10 miles long, thus diminishing the present length of route by one-half.

GRANT PARK.

This is a small reservation 2 miles square, distant 6 miles northwest in a direct line from the northwest corner of Sequoia Park. It is reached by wagon road and daily stage from Visalia, 55 miles, or by trail from Three Rivers via Eshom Creek, distance 28 miles, or by trail from Giant Forest, distance 33 miles. It is, generally speaking, a level plateau, covered by a dense forest, in which there are many fine examples of the *Sequoia gigantea.* Being more accessible, especially from the city of Fresno, it is much oftener visited by tourists than is the Giant Forest. At the same time, on account of its small size and isolated position it is much more liable to be overrun by cattle. The detachment stationed there has been constantly employed in running cattle out of the park, an endless task, for as soon as one band was run out another would make its appearance. In the event of the Sequoia Park not being enlarged so as to include Grant Park, I recommend that a wire fence be erected around Grant Park. The cost of such a fence 8 miles in length would be: For wire and nails, $800; for labor, $800. There is plenty of fallen timber from which to make posts, which are included in this estimate.

EXTENSION OF THE PARK.

I learn from the report of the superintendent of the Yellowstone National Park that on the 14th of April, 1891, the limits of that park were enlarged by order of the President by adding thereto a portion of a timber reserve previously set apart by the President under the timber-culture laws. There is no doubt that this can advantageously be done in the case of the Sequoia National Park, and that the limits can thus be enlarged without materially interfering with the interests of any class of citizens, save sheepmen and cattlemen, who are making use of Government lands. The present park is too small to well perform the functions of a game reserve, since the cold weather forces the deer from the high altitudes within the park to the low foothills outside the park, where they are hunted assiduously. Besides, it is too small; an area 24 miles by 9 being scarcely sufficient for the purpose. By taking in a portion of the forest reserve east of the Sequoia and General Grant National Parks there would be included a country devoid of inhabitants or settlements, without roads, but naturally suited for a game reserve. It would include and preserve the sources of the Kern River, a stream which is much depended on for irrigation. It would reclaim from the sheepmen an area now almost impassable to the traveler, to such an extent is every living thing eaten off the face of the earth and trampled under foot by the hundreds of thousands of sheep which every year roam over that territory. (I am told that this year the ravages of the sheep have been extraordinary, and people visiting the Kern River to fish have to depart hurriedly to prevent their horses from dying of hunger.) This extension of the park would include what is perhaps the finest fishing ground of America, or of the world, the Kern lakes and the upper waters of the Kern River. It would include some very picturesque country, notably about Mount Whitney, and much country in which, by reason of its comparatively low altitude, deer can winter.

By making this extension, the Sequoia Park will become about equal in area to the Yosemite. I inclose a blue print showing the proposed enlargement. Beginning at the northwest corner of Grant Park I would propose that the line run due east to the eastern boundary of the forest reserve; thence south along the boundary of the forest reserve to the point where the southern line of the park prolonged intersects that boundary; thence due west along the southern line of the park prolonged to the southwest corner of the park; thence northwest along the western boundary of the forest reserve to the southwest corner of Grant Park; thence north along the west lines of Grant Park to the point of starting.

This extension would include Grant Park and the Mount Whitney military reservation, a reservation which I believe has not yet been thrown open to occupancy by settlers. A few years of exclusion of sheep and cattle would make this a grand natural fishing and hunting resort, the source of health and pleasure to great numbers of citizens.

INFANTRY, NOT CAVALRY, NEEDED.

To guard and police such a reservation infantry, not cavalry, are necessary. On a rough trail the cavalryman is impeded by having to dismount and lead his horse half the time. The cost of infantry would be less. To subsist a force of 50 men requires the transport from the plains, by wagon and pack train, of 1,500 pounds of supplies per day

for cavalry, against 200 pounds for infantry. The cost of transportation is, therefore, in the case of the cavalry nearly eight times as great. After they have become habituated to the mountains, infantry can do as good or better work than cavalry, penetrating in search of cattle or sheep to side canyons, and on mountains where horses can not follow. Our infantry needs practice in marching, and this mountain work is calculated to improve in *morale* and physique any body of men who are engaged in it. Entire regiments of infantry in the French and Italian services are devoted to Alpine work. For the thorough guarding and policing of the enlarged park, two companies of infantry would be sufficient and their provisioning would cost the United States much less than one troop of cavalry. Such a force, provided with plenty of cheap jacks or burros as pack animals, could do most efficient work. It is believed that troops can be of little use in the park before the 15th of June nor after the 15th of October, on account of the snow.

GAME AND FISH.

From all accounts the numbers of bear and deer in the park have increased materially since last year. This is the principal game. Grouse and quail are found, but not plentifully, owing to the high altitude.

As already stated, the streams in the northern district of the park need to be stocked with trout. I request that the attention of the national Fish Commission be called to this matter. It is a shame to find such fine trout streams devoid of trout. My guide, Mr. West Warren, of Visalia, can be of assistance in this matter; he knows the country and the streams thoroughly.

POINTS OF INTEREST.

This park is not picturesque to the same degree as the Yosemite. Still some very striking views can be had from a few high points, notably Mount Silliman, Mount Baldy, Moro Rock, Castle Rocks, the heights near Mineral King, and a point near Hocketts Meadows. Most of these points are accessible by trail.

FIRES.

There were no forest fires in the park up to date.

SURVEYS, CLAIMS, ETC.

The boundaries of the park should be run by a competent surveyor and marked. This has never yet been done, and until it is done the force guarding the park is likely to be annoyed by intrusions of ignorant sheep and cattle men. Plenty of copies of the rules and regulations of the park should be sent the officer in charge, in order that they may be posted on all trails and roads entering the park.

A number of people filed claims on lands that now lie within the park, before it was established. One aged man, Mr. Daniel Hiten, has for eight years been trying to gain full possession of a place near Oriole Lake, on which he has a house and barn and numerous improvements. His claim, and all others of the kind, should be passed upon and settled one way or the other, that the applicants should not be kept in suspense. It would also be proper, in my judgment, to reimburse the Kaweah colonists for the road on which they have spent so much money and labor.

OPERATIONS.

I will give here a brief résumé of the operations of this troop during the year.

The outpost at Grant Park of Sergt. Wilson and 3 men was established June 26. I inclose his report of operations since. He deserves commendation for the manner in which his duties were performed.

The outpost at Halsteads Meadows, for the guarding of the northern district of the park, consisting of Lieut. S. McP. Rutherford and a detail of 8 men, was established July 10. I inclose Lieut. Rutherford's report, dated August 12. His patrols traveled up to that time about 720 miles.

The outpost at Hocketts Meadows, to guard the southern district of the park, was established July 22. It consists of First Lieut. A. T. Dean, Fourth Cavalry, and detachment of 6 men. I inclose Lieut. Dean's report, dated August 20. His patrols up to that date had traversed 408 miles.

My thanks are due these two officers for the efficient manner in which they have performed their duties.

In addition to the patrols reported by these officers, numerous patrols and scouts have been made from the main camp and elsewhere.

The total number of miles traversed by this troop and independent detachments up to August 22 was about 4,000 miles. Personally I have been able to visit most portions of the parks.

MAPS.

I inclose for file with my report a map prepared by topographical assistant Private Blake, of the Sequoia and General Grant parks and the country contiguous. Also a map of General Grant Park. A large map of the Sequoia Park in detail is in course of preparation. When finished a copy will be forwarded.

RÉSUMÉ OF RECOMMENDATIONS.

In conclusion I take the liberty of making a résumé of the recommendations I have made in regard to this park.

(1) That $5,000 be appropriated and expended for the repairs of the Giant Forest Road.

(2) That this road be extended to the Giant Forest and that the Government appropriate $30,000 for this purpose.

(3) That a bridge across the main Kaweah River be constructed at a cost of $3,000.

(4) That a smaller bridge be thrown across the North Fork, costing $1,000.

(5) That a good trail be built between the Giant Forest and Hocketts Meadows, at a cost of $3,000.

(6) That $200 be appropriated for blasting, etc., on short trail from Mineral King to Hocketts Meadows, to be built by labor of troops.

(7) That a wire fence be constructed about Grant Park, at a cost of $1,600.

(8) That $3,000 be appropriated each year for the repair of roads and trails.

(9) That an engineer officer of the Army be detailed to survey and lay out roads and trails.

(10) That the park be enlarged by taking in that portion of the For-

est Reserve east of the park, and that the Sequoia and General Grant parks be consolidated under the name of the Sequoia Park.

(11) That the National Fish Commission be requested to stock the many fine streams in the park, now without fish.

(12) That the boundaries of the park be surveyed and marked by a competent surveyor.

(13) That the claims of all parties to land within the park be settled without delay.

(14) That the Kaweah Road be paid for.

(15) That infantry as well as cavalry be used to patrol the park, being better adapted to that work.

My thanks are due to Capt. J. H. Dorst, Fourth Cavalry, who preceded me as superintendent of the park, for much information and assistance.

I append tables of distances of the different routes through the park.

Very respectfully, your obedient servant,

JAMES PARKER,

Capt. Fourth Cav., Act. Supt. Sequoia and General Grant National Parks.

The SECRETARY OF THE INTERIOR.

APPENDIX.

TABLES OF DISTANCES.

Three Rivers post-office is at the entrance to Sequoia Park. Stages leave for Three Rivers from Exeter railroad station, distant 20 miles, and from Visalia railroad station, distant 28 miles, on Tuesdays, Thursdays, and Saturdays.

Guides and animals may be secured in Visalia. The best guide to this country is Mr. West Warren, of that town.

Road from Three Rivers to Mineral King.

Intervening distance.	To—	Remarks.	Total distance.
Miles.			*Miles.*
3	Washburns	Good camp; rough road	3
2½	Red Hill	do	5½
2½	East Fork Bridge	do	8
3½	Kanes Flat	Good camp; road rough and steep	11½
2½	Lake Canyon	Good camp; road fair	14
1	Cold Spring	Road enters Sequoia Park	15
3	Trangers	Ranch; road fair	18
2	Slap Jack Creek	Fair camp; road fair	20
1	Red Wood Canyon	do	21
1½	Davenports	do	22½
1	Atwells Mill	do	23½
1½	Ground Hog Cabin	Road leaves Sequoia Park	25
5½	Mineral King	Good camp; road poor	30½

NOTE.—This road has been kept in repair up to date by the county of Tulare.

Three Rivers to Hocketts Meadows.

2½	Blossoms	Good camp; road very poor	2½
5½	Alles	do	8
5	Redwood Cabin	Very rough trail	13
3	Lady Bug	do	16
4	Top of Hill	do	20
8	Hocketts Meadows	Good camp; good trail	28

Mineral King to Hocketts Meadows.

Intervening distance.	To—	Remarks.	Total distance.
Miles.			*Miles.*
1	Soldiers Camp	Fair road	1
3	Farewell Gap	Steep trail	4
4	Little Kern River	Fair camp; rough and stony trail	8
2	Wet Meadows	Fair camp; steep trail	10
8	Hocketts Meadows	Good camp; good trail	18

Distances from Hocketts Meadows.

From Hocketts Meadows to—	Miles.
Milk Ranch	5
Quinns Horse Ranch	8
Mineral King (short trail)	10
Evelyn Lake	2
Davenports, via Tar Gap	8

Three Rivers to Giant Forest via Colony Road.

Intervening distance.	To—	Remarks.	Total distance.
Miles.			*Miles.*
1	Kaweah River Ford	Fair camp; good road	1
3	North Ford Fork	....do	4
1	Davis Ranch	....do	5
3½	Progress Creek	Good camp; road washed out in places	8½
1½	Haha Falls	Fair camp; road washed out in places	10
1	Park line	Road enters park	11
1	Little Spring	Fair camp; road badly washed; good trail	12
1	Maple Caynon	....do	13
3½	Cedar Creek	Good camp; road badly washed; good trail	16½
4½	Colony Sawmill	Fair camp; road badly washed; good trail; water 400 yards north of sawmill.	21
4	Auld Lang Syne Cabin	Rough trail; fair camp	25
3	Crossing Marble Fork	Rough trail; good camp	28
2	Round Meadow (Giant Forest)	....do	30

Colony Sawmill to General Grant Park.

4	Auld Lang Syne Cabin	Rough trail; fair camp	4
4	Halsteads Meadows	Rough trail; good camp	8
4	Half-way Meadow	....do	12
3	Top of North Fork Hill	....do	15
1	Crossing North Fork	....do	16
6	Woodards Ranch	....do	22
10	General Grant Park	....do	32

Distances from Halstead Meadows by trail.

	Miles.		Miles.
To Pond Meadow	2	To Horse Meadow	6
To Sheep Meadow	3	To Upper Cahoon	7
To Cabin Meadow	6	To Clover Creek	6
To Wet Meadow	5	To Lower Cahoon Meadow	1

Round Meadow to Upper Cahoon Meadow.

Intervening distance.	To—	Remarks.	Total distance.
Miles.			*Miles.*
1	Circle Meadow	Fair trail; good camp	1
2	Long Meadow	do	3
2	Horse Meadow	do	5
1	Wet Meadow	do	6
2	Clover Creek	do	8
1	Upper Cahoon Meadow	do	9

Giant Forest (Round Meadow) to Hocketts Meadows.

1	Circle Meadow	Fair trail; good camp	.....
4	Upper Huckleberry Meadow	do	5
7	Middle Fork	Very rough trail; poor camp	12
6	Top of Mountain	Very rough trail; good camp	18
2	Atwells Mills	Very rough trail; fair camp	20
1	Davenports	Good road; fair camp	21
8	Hocketts Meadows	Very rough trail; good camp	29

Giant Forest (Round Meadow) to Red Hill.

2	Moro Rock	Fair trail	2
7	Wolvertons Ranch or Middle Fork	Very rough and dangerous trail	9
9	Red Hill	do	18

HOCKETT MEADOW,
Sequoy National Park, August 20, 1893.

SIR: Pursuant to orders the following detachment from Troop B, Fourth Cavalry, marched from Mineral King to Hockett Meadow on July 22, 1893, reaching the latter place the same date: First Lieut. Alex. T. Dean; Sergeant Charles J. Fulle; Privates Joseph Simon, Frank Ridgely, Paul Schickram, and Martin W. Olsen, to patrol and guard the southern part of the Sequoya National Park.

The detachment has made the following marches:

July 24. Sergt. Fulle and Private Simon marched to the South Fork and southern boundary of the park; found one cow trail and lost it in the heavy rain storm; distance traveled, 16 miles.

July 25. Private Ridgely marched from Hockett Meadow down South Fork trail to Alles Ranch; distance 20 miles. Lieut. Dean and Private Simon, on the above date, marched to the Milk Ranch and patrolled that part of the park near Homers Nose, Milk Ranch, and Evelyn Lake; distance 20 miles.

July 26. Private Ridgely returned from Alles Ranch via South Fork trail to camp at Hockett Meadow; distance 20 miles.

July 28. Sergt. Fulle marched over trail from Hockett Meadow to Davenport Ranch on Mineral King Road, via Tar Gap, and patrolled meadows along Horse Creek; distance 15 miles. Privates Simon and Ridgely marched to Quinns Horse Camp and patrolled near there and Soda Creek; distance 22 miles.

July 29. Sergt. Fulle, Privates Simon and Ridgely marched to the Milk Ranch, and patrolled vicinity of Homers Nose and Evelyn Lake; distance 22 miles.

August 2. Lieut. Dean and Private Simon marched to Quinns Horse Camp and Soda Creek; distance 18 miles. Private Ridgely marched to the Milk Ranch and patrolled near there; distance 15 miles.

August 5. Privates Simon and Ridgely marched down South Fork and up to Chisel Peak Meadow on the southern boundary of the park; distance 20 miles.

August 6. Sergt. Fulle and Private Simon marched down South Fork trail and patrolled meadows between Hockett Meadow and Lady Bug; distance 18 miles. Private Ridgely marched to the Milk Ranch and patrolled near there; distance 15 miles.

August 9. Lieut. Dean and Privates Ridgely and Schickram marched to Quinns Horse Camp, and patrolled near there and Soda Creek; distance 22 miles.

August 10. Sergt. Fulle and Private Simon patrolled near the southern boundary of the park; distance 12 miles. Private Ridgely marched to Mineral King; distance 20 miles.

August 11. Private Ridgely returned from Mineral King; distance 20 miles.

August 13. Sergt. Fulle and Private Simon marched to the Milk Ranch and patrolled near there; distance 12 miles. Private Ridgely went to Chisel Peak Meadow, and patrolled southern boundary of the park; distance 18 miles.

August 14. Lieut. Dean, Sergt. Fulle, and Privates Simon, Ridgely, and Olsen marched from Hockett Meadow to Horse Creek, followed the same up to lake near Mount Vandever, west of Farewell Gap; distance 18 miles.

August 15. Private Ridgely marched to Mineral King; distance 20 miles. Private Ridgely returned from Mineral King on foot, via new proposed trail south of the White Chief; distance 10 miles.

August 16. Lieut. Dean and Private Olsen marched to Quinns Horse Camp; distance 18 miles.

August 18. Lieut. Dean, Privates Simon, Ridgely, and Olsen marched to Milk Ranch and patrolled near Homers Nose and Evelyn Lake; distance 17 miles.

Total number of miles marched by the detachment from July 22 to August 19, 408 miles.

No sheep or cattle were seen.

The conduct of the enlisted men of the detachment has been excellent. The horses and mules are in first class condition.

Very respectfully, your obedient servant,

ALEX. T. DEAN,
First Lieutenant, Fourth Cavalry, Commanding Detachment.

COMMANDING OFFICER,
Troop B, Fourth Cavalry.

CAMP AT HALSTEAD MEADOW,
Sequoya National Park, August 12, 1893.

SIR: I have the honor to submit the following report of the work done by the detachments under my command between the 10th of July and the 12th of August, 1893:

I left the main camp at Washburn's Ranch on the 10th of July with a detachment of 6 men, the pack train, and a guide. We marched to Cedar Creek, on the Colony Road, and went into camp; distance traveled, 18 miles.

On July 11 I marched to Halstead Meadow and made a permanent camp; 12 miles. The same afternoon I started to go to the top of Little Baldy, but there being no trail, and not knowing the country, I was obliged to turn back, as it was getting late. (3 miles.)

On July 12 I took a detachment of 4 men and a guide and went to Pond Meadow; from there to Sheep Meadow, and down the North Fork to Dougherty Meadow, returning to camp by way of Halfway Meadow. (12 miles.) On the way back I met Capt. Parker, who told me there had been large bands of sheep north of the park, he having come from Grant Park that day.

On July 13 I sent the guide and 1 man to the Marble Fork to see whether it was fordable at the trail leading to Giant Forest. A short time previous it had been too high to cross. They reported it fordable. (11 miles.) I sent the pack train to Auld Lang Syne for grain. (8 miles.)

On July 14 I took a detachment to Giant Forest, and camped at Thorpes Meadow. (10 miles.) On the way through the forest I scouted the country in the vicinity of Round and Circle meadows, and that afternoon I sent a detachment to Hackberry Meadow. (3 miles.)

There were signs of two horses having been there, but I judge it was parties visiting the forest. The pack train brought a load of grain. (8 miles.)

On July 15 I took the detachment to Wet Meadow by way of Long and Horse Meadow. (6 miles.) I sent a detachment on foot to scout the country west of camp, in vicinity of Lower Cahoon Meadow, and one to the northeast, in direction of Mount Silliman; distance traveled by each, 5 miles.

I had ordered Corpl. Farrel to take a detachment and scout the country north and northwest of the main camp, in the vicinity of Pond, Sheep, and Cabin meadows, which he did. (12 miles.)

The pack train was sent for grain. (8 miles.)

On July 16 I took the guide and went to Clover Creek Meadow, sending the remainder of the detachment to Upper Cahoon Meadow, where I told them to camp. I joined them there, and sent two men to scout country north and west of camp. (8 miles.) The pack train brought grain. (8 miles.)

On July 17 I took the detachment back to camp at Halstead Meadow, by way of Pond Meadow. (10 miles.) The pack train brought grain. (8 miles.)

On the evening of July 17 I noticed signs of fire in the forest to the northwest of camp, and on the 18th I went to the top of Little Baldy to discover where it was. I found that it was in Dry Creek Valley, some distance from the park. (6 miles.)

I had sent a detachment to scout the northwestern part of park the same morning. (12 miles.) The pack train brought grain. (8 miles.)

On July 19 I hunted a way from the main camp to the trail leading from Wet Meadows, the only trail leading from there being unnecessarily long. We found that a trail could be made that would shorten the distance at least 4 miles. (8 miles.)

On the following morning, July 20, I sent a detachment to cut the trail and to scout the vicinity of Clover Creek and Upper Cahoon Meadows. (15 miles.)

On July 21 I took a detachment to Giant Forest and camped at Round Meadow. (9 miles.) After dinner I took a detachment and scouted through the forest. (6 miles.)

On July 22 I sent two men with the pack train with orders to camp there and went to Thorpes and Hackberry Meadow, in Giant Forest, from there to Huckleberry Meadow, thence to Wet Meadow, where I camped for two days. (13 miles.) Before leaving camp I had ordered Corpl. Farrel to take a detachment and scout the northwestern part of park. (12 miles.)

Having heard that there was a large band of sheep east of the park I sent a detachment to Clover Creek and Upper Cahoon Meadows on the 23d of July, which returned that afternoon. (8 miles.) I went to east of Mount Silliman, but found no sheep in the park. (7 miles.)

On July 24 I returned to the main camp at Halstead Meadows. (6 miles.)

On July 25 Mr. Hadley, the owner of a large band then ranging northwest of the park, came to camp to ascertain the boundary of the park. I sent a detachment with him to show him the boundary and to see that he was not in the park. They found that the band was several miles outside to the northwest of Big Baldy. (15 miles.)

July 26 I remained in camp.

My horses and mules having been stampeded on the evening of the 26th of July, I sent several detachments on the 27th to look for them.

A great deal of the northern part of the park was thus gone over as the horses had wandered around and broken into bands.

They were found some 5 or 6 miles outside of the park late that day and did not reach camp until evening.

The next day I started for Mineral King, by way of Washburns, leaving the detachment in charge of Corpl. Farrel, with orders in regard to scouting. I camped at Washburns that night. (30 miles.)

On July 29 I marched to Mineral King. (30 miles.)

The following is the work done by the detachment during my absence from July 28 to August 9.

On July 28 three detachments were sent out to look for the mules which had not been found the previous day.

They were found by one of the detachments late that afternoon.

On July 29 a detachment was sent to Grant Park with some articles for the detachment there (25 miles).

On July 30 a detachment scouted the country in the vicinity of Pond and Sheep Meadow. Distance, 10 miles.

On July 31 the detachment came from Grant Park by way of Cabin Meadow (25 miles).

On August 1 a detachment went to Giant Forest, camping at Circle Meadow (9 miles).

After dinner a detachment was sent to Thorpe's and Hackberry meadows (5 miles).

Fresh cattle tracks were discovered, but no cattle. I judge these were Thorpe's cattle, which had been driven up the Moro Rock trail and across the park to their range east of it.

On August 2 the detachment went to Horse Meadow and camped. Part of it was sent to Upper and Lower Huckleberry Meadow, the pack train being held at Long Meadow (9 miles).

On August 3 the detachment went to intersection of trails leading from Wet and Halstead's meadows, where the mules were unpacked and left in charge of one man, while the remainder of the detachment scouted the country north and west of Mount Silliman. On returning, the mules were packed and the detachment returned to Halstead's Meadow (12 miles).

Some of my horses were now lame, having been unshod for several days.

The blacksmith arrived from Mineral King on the 5th and shod them.

On August 7 a detachment scouted northwestern part of park, going by way of Pond Meadow (12 miles).

On August 8 the detachment remained in camp, with the exception of the pack train, which brought a load of grain from Auld Lang Syne (8 miles).

I left Mineral King with the pack train, from there loaded with rations for the different detachments, and marched to Washburn's on the 7th (30 miles).

On August 8 I marched to Cedar Creek on the Colony Road (18 miles.)

On August 9 marched to Halstead's (12 miles).

On August 10 I sent a detachment of 2 men to scout country north and west of Mount Silliman.

They returned late that afternoon and reported a band of sheep in the park in the vicinity of Clover Creek Meadows. They could find no herders, and the band was too large for them to handle.

I took a detachment the next day, August 11, to the place where the sheep had been, but found none. They came in by Upper Cahoon Meadows and were driven out the same way.

From the looks of the country over which they passed I judge it was a small band that had strayed away, and were driven out as rapidly as possible. They did very little grazing. Distance traveled, 16 miles.

I sent a detachment to Giant Forest, which returned this afternoon (18 miles).

On August 12, I sent a detachment to Pond and Sheep meadows, (8 miles).

I took a detachment and went to Cabin Meadow. I found sign of several cattle having been there but they had evidently been driven out 10 miles.

Very respectfully, your obedient servant,

L. McP. RUTHERFORD,
Second Lieutenant Fourth Cavalry.

Capt. JAMES PARKER,
Fourth Cavalry, Acting Superintendent Sequoia, National Park.

CAMP IN GENERAL GRANT PARK,
August 15, 1893.

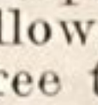
SIR: In compliance with instructions I have the honor to submit the following report:

I left camp at Washburn's ranch June 26 with a detail of three privates and two wagons, with supplies, en route to General Grant Park, marched to Townsend's ranch, 22 miles, arriving at 1:30 p. m.; road good, no grass, water from wells.

The next day, June 27, marched to the Old Comstock Mills, 28 miles, arriving at 4 p. m., up a steep mountain road; no grass, plenty of wood, and good water.

On June 28 marched to the park, 10 miles, placed the detail in camp near the old camp of last year, on the Shadbeigh Meadow; plenty of good grass, water, and wood.

June 29 I entered on my duties as guard to the park by sending out my regular patrol, which has been continued ever since.

The greatest trouble we have to contend with is the cattle, as there is no place to which we can drive them without their returning in a few days. In order to keep them out as long as possible we drive them into a corral whenever we get a bunch of thirty or forty head, and keep them until the owner comes after them (whom we notify), or failing the arrival of the owner until they are starved out, when we drive them some distance from the park; they then stay away some time before returning. There seems to be about two or three brands of cattle which roam in the park. They belong to a Mr. Persian, Woodward, and Dunn, and are branded as follows:  They have been notified several different times. The first two or three times they came after their cattle, but since that time they have paid no attention to the notices, but have allowed their cattle to be starved and then run out.

There has been no sheep near the park this year; the nearest band is about 10 miles on the Halstead Meadow trail. We have visitors in the park daily, but so far have committed no damage. Tourists going to Kings River Canyon, as a rule, do not stop in the park, but go to a meadow about 5 miles outside the park. Only two parties of ladies and gentlemen, from Fresno, have camped over night.

There was a picnic from the Sequoia Mills here on July 4 and August 13. I took charge of that part of the park personally.

The park comprises 4 square miles. The eastern lines run about half way up the side of a steep and rocky hill, which is so covered with underbrush as to make it almost impassible. The southern line is open; and that is the principal place by which cattle enter the park. The western line runs close to Smith and Moores Lake and is very steep and rocky; also covered with a thorny underbrush. The north line is open, but there is no cattle in that part of the mountains.

The park is comprised of a series of small rocky hills, between which the meadows lie. There are about thirteen, ranging in length from 100 to 500 yards, and about 50 to 100 yards in width, covered with an abundant growth of grass, with streams of fine cool water running through them.

There is no large game in the park. Partridges are plentiful this year.

The lines of the park are very indistinct. In some places it is impossible to find the corners or follow the blazed lines of the park; the corner posts are limbs of trees set into the ground, projecting about 2 feet above the surface; some of the section posts are out altogether, and it would be a great help to all parties if the park was resurveyed and marked plainly. A fence about three-fourths of a mile in length placed at the south end of the park would keep the cattle out, and with the fallen timber at hand, would cost but little.

The men of the detail have been enjoying good health and are contented.

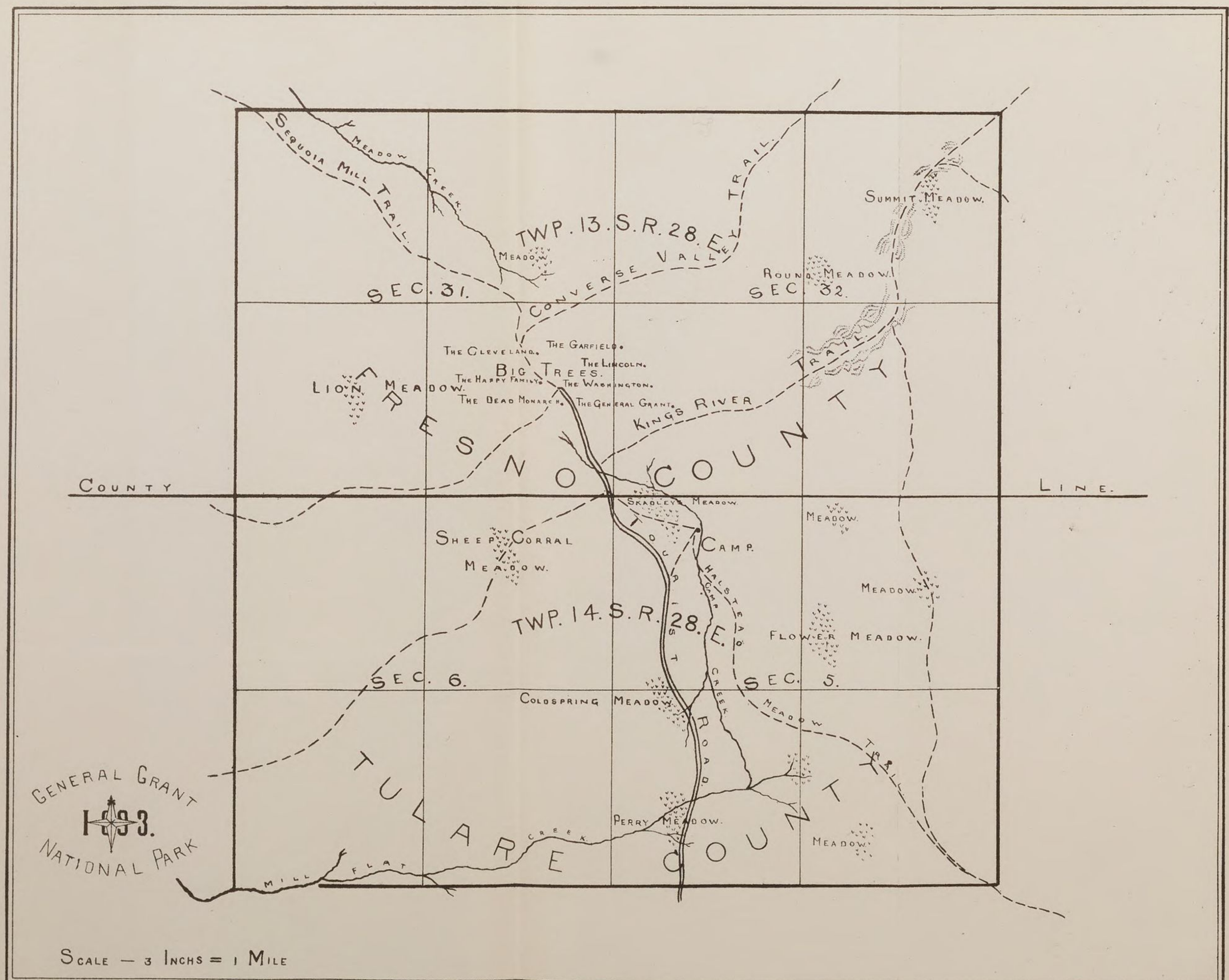
I have no breach of discipline to report. They have performed their duties cheerfully and willingly. The horses are in good condition, and have had no sickness nor injury among them. From June 26 until July 8 I fed full forage; from July 8 until July 29, half forage; after my hay was exhausted on July 29, they were placed on full grain.

I have on hand rations for the men to include August 31, and for the horses 1,604 pounds of barley and 220 pounds of hay.

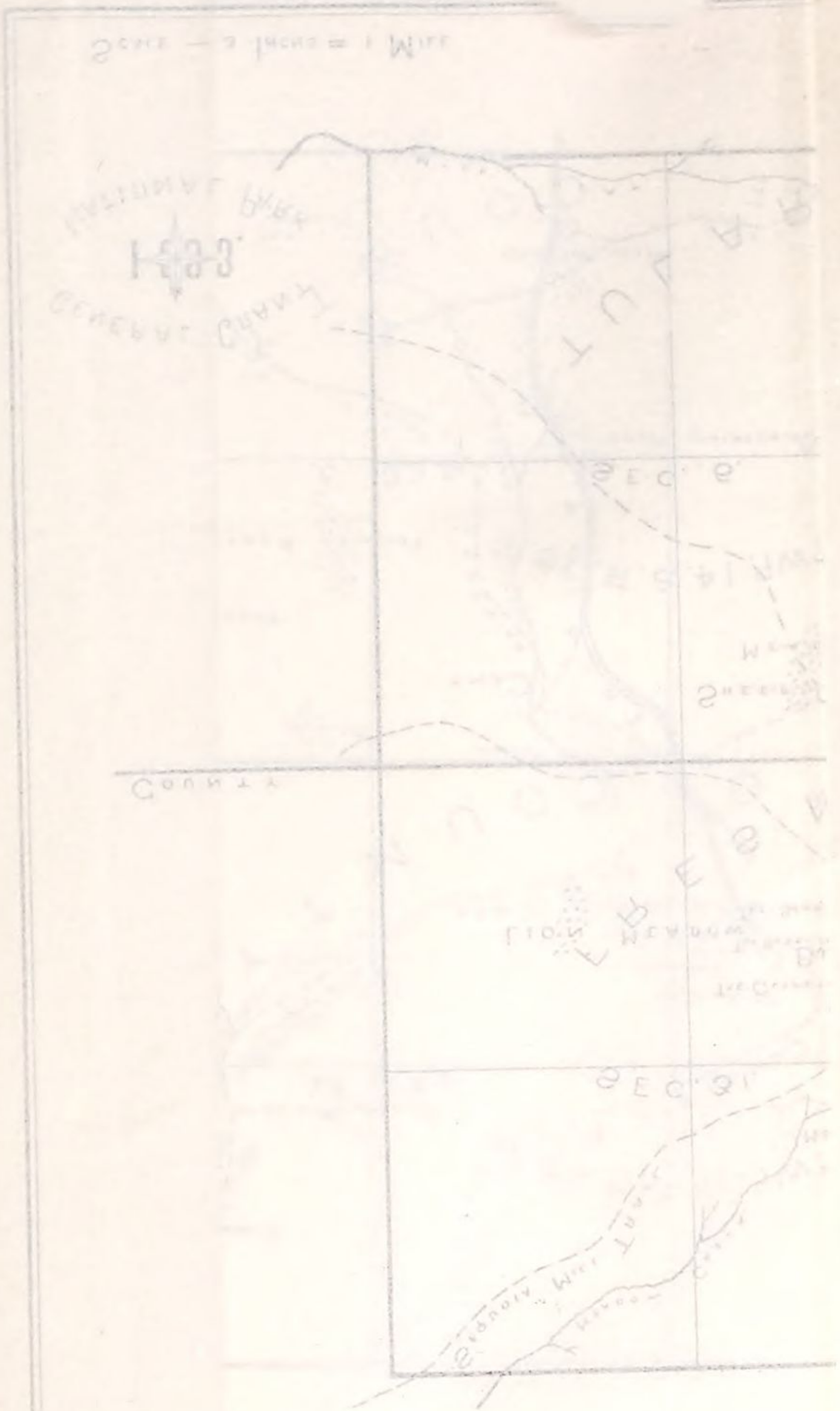
Very respectfully, your obedient servant,

WILLIAM WILSON,
Sergeant Troop B, Fourth Cavalry,
in charge of detail.

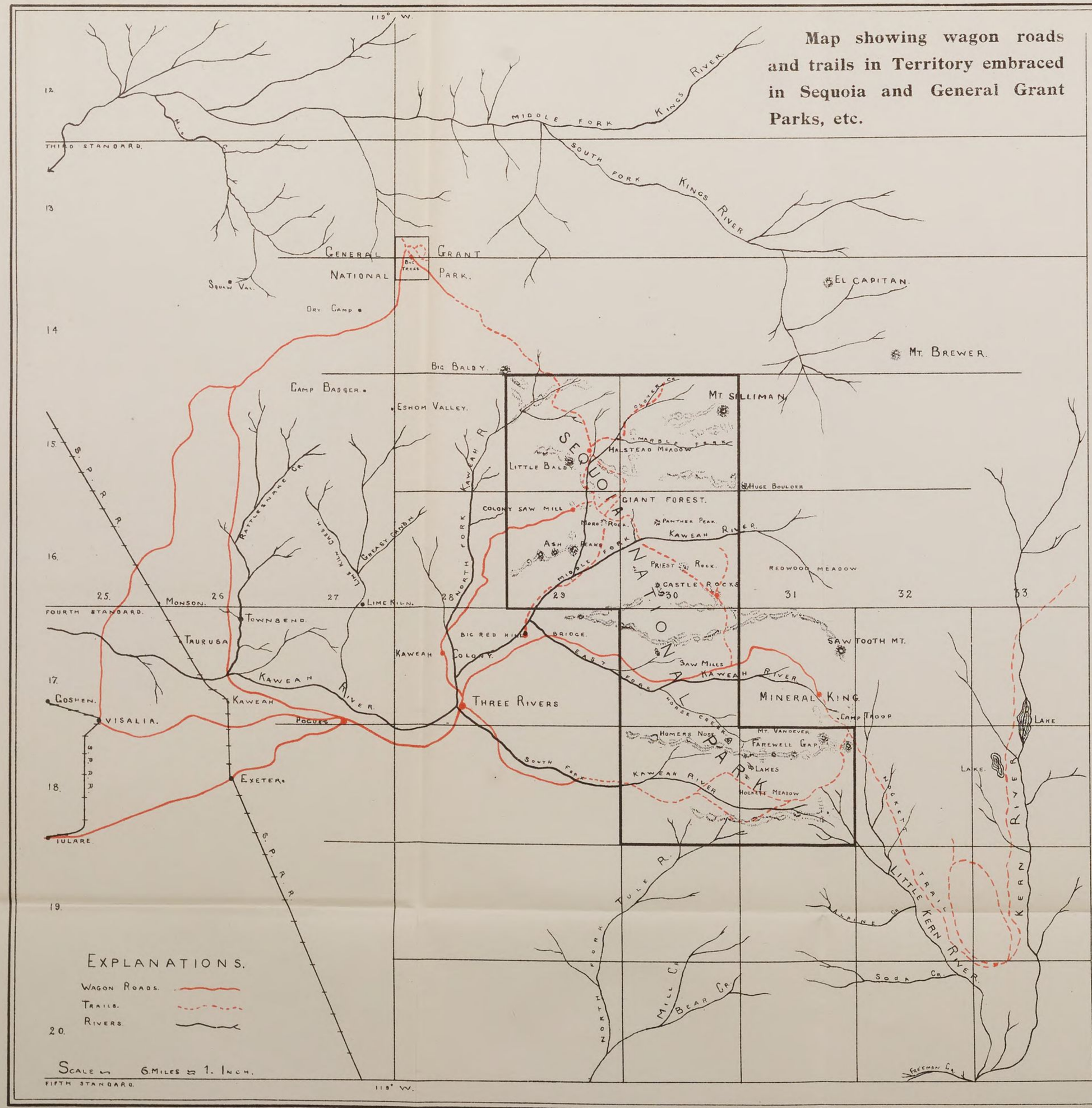
Capt. JAMES PARKER,
Fourth Cavalry, Acting Superintendent of the Sequoia
and General Grant National Park.



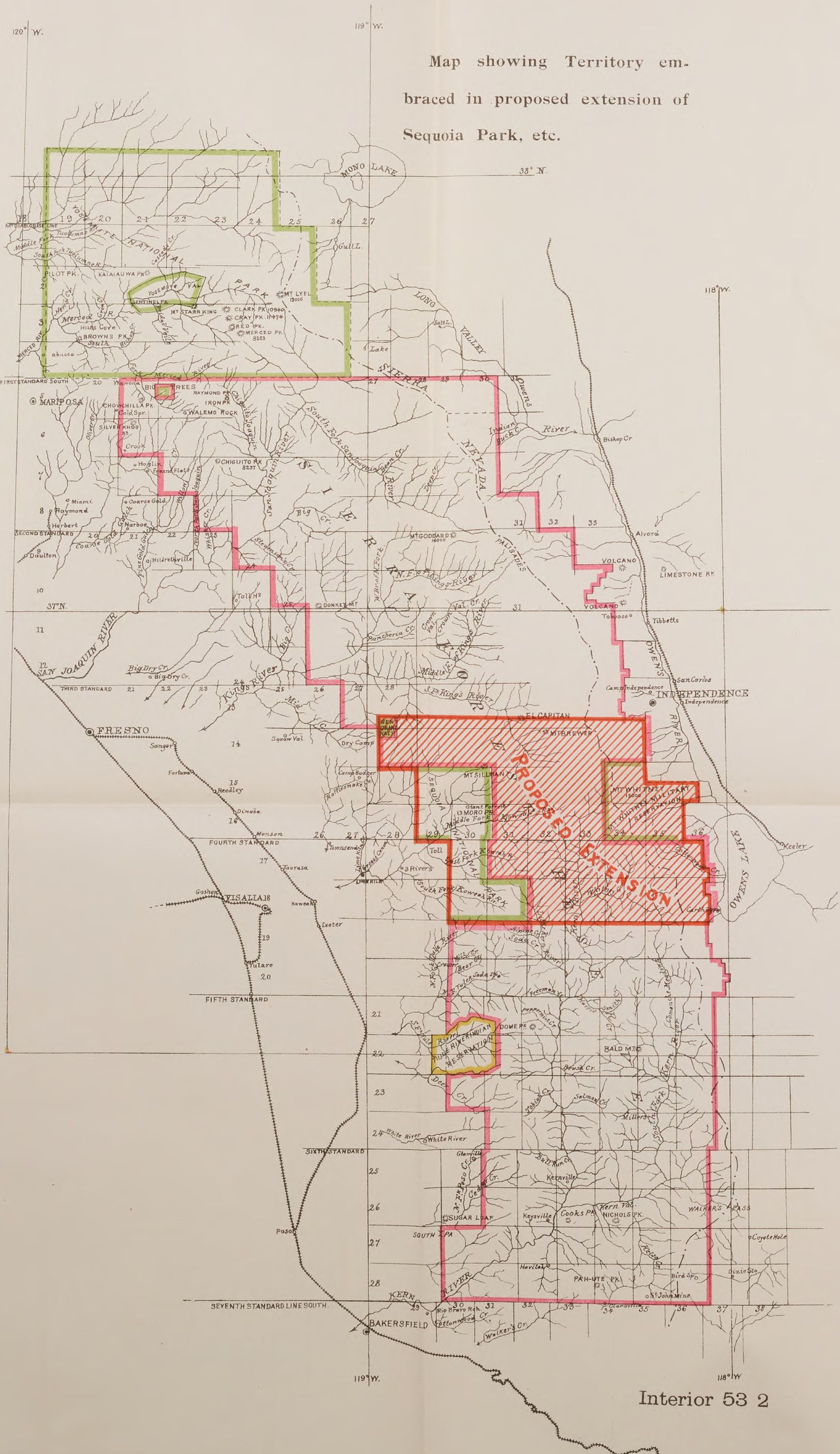
Scale — 3 Inches = 1 Mile



Map showing wagon roads and trails in Territory embraced in Sequoia and General Grant Parks, etc.



Map showing Territory embraced in proposed extension of Sequoia Park, etc.



Interior 53 2

REPORT

OF THE

ACTING SUPERINTENDENT OF THE YOSEMITE NATIONAL PARK.

CAMP NEAR WAWONA,
Mariposa County, Cal., July 15, 1893.

SIR: I have the honor to submit the following report of the condition of affairs and of the management of the Yosemite National Park during the fiscal year ending June 30, 1893.

The law forbidding trespassing on the lands within the limits of the park has generally been observed, but there were a few cases where the trespass was so clear, and the intent so evident, that examples of some severity were made of the offenders.

The Tuolumne River has its source at the north foot of Mount Lyell, and for a distance of about forty miles the river runs practically parallel to the summit of the Sierra Nevada Mountains. This river drains all the country north of it to the summit, and as far west as the western boundary of the park. The portion of this area lying between Mount Conness and Lake Vernon on the east has been so torn by glacial action that there is a succession of deep and rugged canyons running from the summit to the river. The divides between these canyons are composed of bleak, bare rock, destitute of vegetation of any kind. In the canyons there is generally a growth of tamarack trees, and at places they open out a few rods, where a little meadow of grass grows. Into that almost inaccessible region the sheepmen thought they could graze their herds in security. It was thought, even by men accustomed to these mountains, that our cavalry horses could not pass over so wild and rugged a country. Thinking it very probable that the sheepmen would enter the park and try to graze in this country, I furnished Lieut. Davis with a detail and ordered him to scout the country out thoroughly. He found that one herd had escaped him by passing out of the park before he reached them, but he arrested the herders of other herds and marched them, their dogs, and pack outfits, to the western limit of the park, whence he ejected them. He subsequently found a herd about half a mile within the park boundary in Township 2 S., Range 25 E., but the herders discovered him before he could reach them. They hid in the neighboring canyons, and the lieutenant could not find them.

The sheepmen understand thoroughly that they are liable to great loss if they are caught grazing their herds within the park. The penalty for such trespass is ejectment, but I claim that the offender can not select his own punishment, hence I have the right to eject from such point of the park boundaries as will, in my judgment, prove the most effective. Of course this journey is not in accordance with the will of the offender, and consequently he is under restraint, or, in other

words, he is under guard, until the point on the park boundary which I have designated as the place of ejectment is reached. In order to save him unnecessary hardship, he is allowed to take along such horses or pack animals as he may have with him, and also his complete camp outfit and provisions. When ejected, some of them usually ask and obtain permission to see me for the purpose of getting written permission to go and collect the herd and move it off the park.

The owners of these herds are not always with them, so, in order to compel them to give orders to their herders not to trespass upon the park, when herders are arrested they are marched to another part of the park for ejectment, this march consuming four or five days; and after they are ejected it takes as long to get back to their herds. In the meantime the sheep are alone, and the forest animals are liable to scatter and destroy many of them. When the owner awakens to this fact, he takes more interest in the doings of his herders, and gives them orders not to enter the park under any circumstances. A few examples have made all of them respectors of the law, and so far this season no willful trespass by the sheepmen has been discovered.

When the troops first came here to guard the park, there were a great many cattle habitually grazed upon the lands now within its limits. Some ranchmen owned homesteads in which they lived during the summer months, and they had habitually driven their cattle to their possessions in the mountains, and turned them loose to roam and graze at will until just before the autumn storms, when they would round up their herds and drive them back to where they had provided a winter range for them. The policy of preventing all trespassing upon the park by the employment of the troops was so suddenly adopted, that these people knew nothing of it until the soldiers actually arrived here; but by that time those living on the park had either returned to their summer homes in the mountains, or were on their way to them; and to enforce the order against their stock would have subjected them to hardship and pecuniary loss, which they were not prepared to bear without real suffering, in some cases, which I wished to avoid. To do so, I told those who lived within the park to do the best they could during the summer toward keeping their cattle upon their own lands, but to be prepared to comply with the law the following year. Those living outside of the park were given to understand that they must keep their cattle off or I would have to adopt measures to do it for them. This did very well until sometime during September, at which time a man ran in about 600 head of cattle and thoroughly intermingled them with those of the residents. When I discovered this trick and took a detail to round up and eject these cattle, I found that the task of separating them was a great one; and when I threatened to drive the whole outfit through Bloody Canyon, the resident owners begged so hard for their stock that I had to relent, but, as a compromise, they promised to round up and take all their stock out of the mountains much earlier than usual. When I returned the following season (1892), I notified them that residents on the park could bring in such stock as they could graze upon their own inclosed meadow land, but they could use such other land as they had patents or deeds for, provided they marked the boundaries so that my men could see them, and, also, provided that they herded the stock so that it would not graze upon adjoining lands; in other words, did not trespass. Some of them promised to comply with the rules; some brought their stock on the park without saying a word about it.

During the month of August last I discovered that the promises were not very rigidly adhered to. Not one of them had marked the boundaries of his premises, and the cattle were not very carefully kept within their inclosed meadows. I frequently warned them and told them what would be the consequences of continued neglect to comply with their promises. I fear that this mild treatment encouraged them in the belief that I would not be severe with them even if they did not do as I wished. The last few days of September I learned that they made no pretense of keeping their cattle from trespassing, and, finally, I also learned that the same man had repeated the same trick of the year before and had driven his herd upon the park. It was not long before Lieut. Davis was among them with orders to round up every head of stock he could find at large upon the park, to arrest and send to Wawona every stock owner who did not live on the park, or other trespasser. After he had rounded this stock up, the lieutenant was to drive it through Bloody Canyon. This man had, years ago, fallen trees and built two houses on Government land. These houses were now within the limits of the park, notwithstanding which he had made them his headquarters, had stored provisions and bedding, as well as arms for his men, and, generally, he had made them a rendezvous for men intent upon violating the law. These houses, his goods, and cattle became, therefore, as to the Government, a private nuisance, and as the representative of the Government I had the right and it was my duty, to abate it. I therefore ordered Lieut. Davis to burn these houses and everything that might be in them. These orders were obeyed. The men had one or two ludicrous chases after cattlemen and herders, but they were too fleet and too well acquainted with the country and were not caught. The houses and their contents were burned, a bunch of cattle was rounded up, and on the 8th of October they were driven through the Bloody Canyon to the Nevada side of the Sierra Nevada Mountains. The western side of the park was thoroughly policed for the winter, and it became generally understood that the law forbidding trespass was going to be enforced.

Two fires occurred in the park last year, in the latter part of September. The first fire occurred in township 2 south, range 19 east, and burned over an area about a quarter of a mile square. It reached the Tuolumne grove of *Sequoia gigantae* and touched one of the trees before it could be extinguished. The tree was not injured. This fire evidently spread from the fire left by some careless camping party. The second fire was a very serious one and burned an area of country within the park about 1 mile wide by 3 miles long, in townships 1 and 2 south, range 19 east. It was finally extinguished by driving it against the South Fork of the Tuolumne River. This fire originated outside of the park, but in what manner investigation could not determine.

My men have no facilities here for subduing fires. Upon the two occasions of last year they used gunny sacks, brush brooms, etc. An iron-headed and toothed rake would be the most effective instrument that could be used for extinguishing fire in this forest. There are never any high winds here. Even the fires themselves do not make much of a current of atmosphere; hence fires burn very slowly, and when not in a thick growth of firs, or other material that makes a dense smoke and heat, they can be approached with impunity. Advantage can be taken of the open spaces, and all the pine needles, leaves, and other combustible matter can be raked into a windrow, which will enable us to back burn, and thus check the fire effectually. If my men

had been provided with rakes last September both fires could have been subdued before much damage had been done. August and September are the months when fires do the most damage. The long, dry, hot summer has made tinder of the pine needles, fallen leaves, etc., and it takes but very little to start a fire.

Last season the autumn rains commenced early in October, and the forest was soon so damp that there was no more danger of fire. The summer resident started for the plains and, as the trespasser had departed the country, this command, on October 25, 1892, joined the general movement for a lower altitude and a more hospitable climate for the winter.

Having received the proper orders, we started from the Presidio of San Francisco, Cal., on our return to this park May 8, 1893, where we arrived May 24, after a most pleasant and agreeable march of 250 miles.

The fall of snow in these mountains the past winter has been unusually heavy. The season thus far has been quite cool and, as a result, vegetation is fully three weeks later than usual; but the sheep men brought their herds to the mountains as usual, and, being disappointed in the matter of grazing for their stock, the most of them returned to the valley and rented grazing land. This accounts for the anxiety of some who own land within the limits of the park to get their herds upon it. The vegetation has been protected for two years and, of course, it is much better grazing than anywhere else in the mountains. None of them own land enough to support their herds more than a few days, at the end of which time they would be situated as they now are—the portion of the park passed over by their herds would be a desert, and, if their herders followed their usual practice, numerous fires would be in the forest, thus burning what was not eaten or trampled into ruin. If sheep are allowed to enter this park you might as well withdraw the guard and have Congress repeal the act creating it. For thirty years they have made their annual visits to these mountains and the damage that they have wrought is incalculable. When we pass through the forest that is frequented by these herds and note the absence of young growth to replace the matured forest trees, and when we reflect that it takes about seven hundred years for the sugar pine to mature, and about two hundred and forty for the fir to attain its extreme age, we can then realize that the damage wrought has been enormous, reaching far into the future, and for this reason it is inestimable.

The cattle men living outside of the park have given no particular trouble thus far, but those who reside within the park have been careless and their cattle have trespassed. In order to correct this I sent Lieut. Davis among them with orders to round-up such stock as he found roaming at large upon the park and drive them to Wawona for ejectment. The snow was so deep in Bloody Canyon that it was impassable. He rounded-up a bunch and sent them here, but the owner accompanied them, and he begged so hard, and promised so faithfully to comply with my orders hereafter, that I allowed him to drive them back. They all soon saw that I had ceased to exercise forbearance, and now the few cattle that are on the park are in inclosures which are on patented lands. One man brought his cattle to his inclosed meadow without letting me know anything about it. He had the good luck to escape my patrols and was upon his own land before he was discovered, but he soon learned the condition of affairs, and he hired a herder to take care of them and keep them within his inclosure. I have camped

a detail near him, and if any of his stock gets at large it will be driven here and ejected.

These people have had two years in which to prepare for this, and when I talk to them they acknowledge that they can blame only themselves. I have been as lenient as possible with them for the past two years, but until I commenced to enforce the rules in all their cast-iron features they manifested no inclination to prepare themselves for what I repeatedly told them was coming. Not one of them has marked the boundaries of his land, and before this spring not one of them had repaired his fence around his grazing land to keep his cattle from roaming at will over the park. The reason for this neglect to comply with the orders is that if compelled to graze their stock upon their own land the animals would starve to death before the summer was over.

The mining interests within the limits of the park have been very quiet this year. The owners of some claims in township 3 south, range 25 and 26 east, said they wished to build a road into their property on Shadow Creek (erroneously printed "Shaw Creek" in my last annual report). I investigated the matter and reported favorably, and the honorable Secretary gave the required permission, but no steps have been taken to construct the road. From what I know of the parties and the situation, I doubt if they ever intended to build the road. A road constructed into that mining region from the east, which is the only practicable route, would benefit it very much. The reasons stated in my first and second annual reports for changing the boundaries of this park still remain good. It would leave out all the mining country in the northeast or Mount Gibbs district; it would leave out the entire Minerette mining district in the southeast; and if the line follow the South Fork of the Merced River down to its intersection with a line drawn north and south through the middle of township 2 south, range 20 east, thence west along said south boundary line to the present western boundary, which it should follow to its intersection with the Tuolumne River, with the exception of one or two claims, this would leave out all the old settlements, some of which have been established for thirty years, and all the mining country in the southwestern part of the park. These mines can not eternally be kept locked up in this park, nor is it good public policy to have them in the park. Even if Congress should pass a forestry law, and indicate a method whereby mines could be worked and timber could be cut, none of these laws should be applicable to a national park, which should contain nothing but natural curiosities, for the preservation of which alone the park was created.

I can only form an approximate estimate of the number of mining claims on this park in the districts above described. The number must be nearly three hundred, and probably there are more than that number. In this connection, if we consider the fact that, in addition, there are more than 65,000 acres in homesteads, preëmption, and timber claims within the boundaries of the park owned by private individuals we can form some idea of the private interests involved, but the acting superintendent only can form an idea of how much trouble these interests create.

There are three toll roads which enter the park and center in the Yosemite Valley. The honorable Secretary appointed an agent, with whom I was to act last year, to investigate the status, etc., of these roads, among other things. I attended the meetings of this commission, but never got to see the report, and consequently do not know what recommendations were made; but if the object was to ascertain the value of these roads, with a view to their purchase by the Govern-

ment, I would observe that, if the Government does purchase these roads, it must be prepared to make an annual appropriation of at least $12,000 to keep them in repair, and these repairs must commence in March and continue until the winter storms suspend the travel.

Last September the State fish commissioners sent me 25,000 young rainbow trout. I put 13,000 of them in the small tributaries of the South Fork of the Merced River, 2,000 in the head waters of Bridal Veil Creek, 4,000 in the Illilouette Creek above the falls, and 6,000 in Lake Ostrander. The State fish commissioners have very generously given me 20,000 young New England brook trout for distribution in the streams within the park. They will be distributed in August, when they get stronger. The same commission has promised me a few more young trout in September.

The South Fork of the Merced, the main Merced, and the Tuolumne were stocked with the steel-head trout about fifteen years ago, but this trout, when he attains a certain size, generally seeks salt water, but he can not return on account of the falls of the Merced, which are located in the foothills, those of the Tuolumne being at the head of the canyon in township 1 north, range 22 east. The result is that the trout in these streams weigh only a few ounces, and even these are not found above the great falls in the Yosemite Valley. The Merced and Tuolumne rivers, above the great falls, are entirely destitute of fish, and more beautiful streams can not be found. There are about a dozen lakes in the park that should be stocked with trout. There is not a fish in them at present. I applied to the United States Fish Commission for young trout to stock these streams and lakes. I have been notified that my application was put on file, which appears to end the matter.

If this is maintained as a national park a guard of some kind will always be necessary; and until the inhabitants of these mountains and foothills become habituated to the present state of affairs, the guard will have to be furnished by the Army; and as the nature of the duties make it impossible for a footman to perform them the cavalry will naturally have to furnish it. I have been over every foot of the ground in this park, and studied it with a view of selecting the most available place for a permanent camp. Under the present condition it is not advisable to build barracks and place a permanent garrison upon the park, but an encampment of five or six months every year will accomplish the object of protecting the park and educating the men in field duties in a manner that these times of peace would otherwise deny them. The place for this encampment is here, for this is on the main traveled road to the valley, it is by far the nearest point to the railroad, and supplies can be obtained at the least expense. From the direction of the trails, roads, and the present location of the settlements it is the most central point. All points in the park can be reached from here quicker than they could all be reached from any other place. This southern border needs the most guarding and a patrol sent from any other part of the park to a particular point on the southern border would first have to come here and then go to its destination. The elevation here is 4,000 feet, just right, for a command can come here between the 20th and 31st of May, form its camp, and get into good shape for patrol duty long before the snow has melted on the elevations about 8,000 feet. I am told by those who have been among these mountains ever since 1852 that there have been three different years, when, owing to the cool seasons, the snow did not entirely leave the 7,000 feet elevations, and the meadow lands on the

8,000 feet elevations were covered with snow all the year of the periods mentioned. Snow generally falls on all elevations above 7,000 feet during September, but there is liable to be trespassing or fire in the southwest portion of the park, which is from 4,000 to 6,000 feet elevation, until the last part of October, when every living thing, except a few fur-bearing animals and the grouse, seeks the foothills.

If troops are employed, I would most respectfully suggest that the honorable Secretary should make application for them some time during the month of February, in order that they may get the order not later than the middle of March, for, as they will have to commence the march about May 4 to 10, that will give their commander time to make the proper requisitions for supplies. Some of these requisitions, for ordnance, for example, will probably have to go to Washington and return, or to the Springfield arsenal. It will also give time for the legal period of thirty days for the Quartermaster's and Commissary Departments to advertise for supplies, one for forage, and the other for fresh beef, and for other contracts. Unless time is given the command will arrive at the park poorly supplied. Officers and men always do their duty more cheerfully, and much more can be exacted of them, if they are properly provided for, and they see that those in authority are really interested in their welfare.

Very respectfully, your obedient servant,

A. E. WOOD,
Captain Fourth Cavalry,
Acting Superintendent, Yosemite National Park.

The SECRETARY OF THE INTERIOR.

REPORT

OF THE

MARITIME CANAL COMPANY OF NICARAGUA.

NEW YORK, *December* ——, 1893.

SIR: Pursuant to section 6 of the act entitled "An act to incorporate The Maritime Canal Company of Nicaragua," approved February 20, 1889, which provides that said company shall make a report on the first Monday of December in each year to the Secretary of the Interior, and in accordance with instructions prescribing the form of such report and the particulars to be given therein, the said Maritime Canal Company of Nicaragua reports as follows:

First. That the regular annual meeting of the company was held at No. 44 Wall street, in the city of New York, on the 4th day of May, 1893, pursuant to the provisions of the by-laws, and that at such meeting Messrs. Joseph Bryan, James Roosevelt, Hiram Hitchcock, Thomas B. Atkins, and Horacio Guzman were duly elected directors of said company to fill the places made vacant by the class whose term of office expired on the said 4th day of May, 1893, and to serve for the period of three years as provided for in the said act of incorporation, and that at the same time Mr. Robert Sturgis was elected as director to fill a vacancy existing in the class of 1895, and Mr. Samuel Barton was elected as director to fill a vacancy in the class of 1894. Mr. Barton failed to qualify, and Mr. F. F. Thompson was subsequently elected to fill the vacancy in the class of 1894. Since then Mr. A. B. Darling and Mr. Alexander T. Mason of the class of 1894 have resigned and the vacancies caused by their resignations have not yet been filled.

Second. That the board of directors of said company as now constituted is composed of the following stockholders:

Class of 1894.—Franklin Fairbanks, C. Ridgeley Goodwin, and F. F. Thompson.

Class of 1895.—Charles P. Daly, Daniel Ammen, Horace L. Hotchkiss, Henry E. Howland, and Robert Sturgis.

Class of 1896.—Joseph Bryan, James Roosevelt, Hiram Hitchcock, Thomas B. Atkins, and Horacio Guzman (Nicaraguan director).

A majority of the above-named directors are citizens and residents of the United States.

Third. That at the first meeting of the board of directors held after the said annual election the following officers were duly elected to serve for the ensuing year, to wit: President, Hiram Hitchcock; vice-president, Charles P. Daly; secretary and treasurer, Thomas B. Atkins. All of the officers so elected are citizens and residents of the United States. That at said meeting the following directors were elected members of the executive committee, as provided for in the

by-laws of said company, to wit: James Roosevelt, chairman; Hiram Hitchcock, Horace L. Hotchkiss, Henry E. Howland, and Alexander T. Mason.

Fourth. That since the organization of the Maritime Canal Company of Nicaragua 10,145 shares of the capital stock of said company have been subscribed for at par, amounting in the aggregate to the sum of $1,014,500, of which amount $1,006,940 have been paid into the treasury in cash; that there has been paid into the treasury from other sources $48,871.62, making the total amount of cash received $1,055,811.62.

Fifth. That since the organization of the company it has paid for property, work, and labor done, and materials furnished in the execution of the work of constructing the canal and in administration expenses, the sum of $830,788.67 in cash and 31,990 shares of the full-paid capital stock of the company of the par value of $3,199,000, and is obligated for $6,855,000 of its first-mortgage bonds. It has also issued 180,000 shares of its capital stock of the par value of $18,000,000 in payment for concessionary rights, privileges, franchises, and other property.

Sixth. That the liabilities of the company consist of the amounts still due under the concessions granted to the company; of the $6,855,000 of bonds before mentioned, the said bonds being due to the Nicaragua Canal Construction Company for work and labor done and materials furnished in the execution of the work of constructing the Interoceanic Canal, and of cash liabilities outstanding and unpaid to an amount not exceeding $50,000.

Seventh. The assets of the company consist of its capital stock, of the concessions, rights, privileges, and franchises which it now owns, and of the plant, equipments, materials, lands, buildings, structures, railways, steamboats, telephone and telegraph lines, dredges, locomotives, cars, machinery, stores, machine shops, supplies, and other property in Central America, including the lands situated between the lake and the Pacific, purchased from the Government of Nicaragua for the route of the canal, at a cost of $50,000, in accordance with the provisions of the Nicaraguan concession.

In our annual report for 1892, we submitted a statement of the work that had been accomplished up to that date; since then the unprecedented conditions of the money market have been the cause of serious embarrassment to all enterprises that depended upon the sale of securities for means to prosecute their undertakings. The Nicaragua Canal Construction Company, under contract with this company for the construction of the canal, suffered under the general conditions in common with others, and was obliged first to limit its expenditures to what was requisite for protection and preservation of its plant, and finally to suspend all payments. This resulted in the appointment, on August 30, 1893, by the circuit court for the United States for the southern district of New York, of a receiver for that company. The secretary and treasurer of that company was appointed such receiver.

The result of this condition of affairs is that no material advancement in construction work has been accomplished since the report made by the company to the Department in December, 1892, and, therefore, we beg to refer to that report as showing substantially the present condition of the work.

Upon the appointment of the receiver measures were inaugurated by shareholders of the construction company for the reorganization of that company upon a strong financial basis, providing for the liquidation of its indebtedness and the active prosecution of work under its

contract, in the immediate future. These measures are now well under way with the every assurance of a successful issue, and the Maritime Canal Company is awaiting the result.

In witness whereof the Maritime Canal Company of Nicaragua has caused its corporate seal to be hereunto affixed and these presents to be signed by its president and secretary this 4th day of December, A. D. 1893.

THE MARITIME CANAL COMPANY OF NICARAGUA,
By HIRAM HITCHCOCK,
President.

[SEAL.]

THOS. B. ATKINS,
Secretary.

The SECRETARY OF THE INTERIOR,
Washington, D. C.

STATE OF NEW YORK, *City and County of New York, ss:*

Hiram Hitchcock, being duly sworn, says that he is the president of the said the Maritime Canal Company, of Nicaragua; that he has read the foregoing annual report and knows the contents thereof, and that the same is in all respects correct and true.

HIRAM HITCHCOCK.

Sworn to before me this 4th day of December, 1893.

V. BIGELOW,
Notary Public, New York County.

[SEAL.]

STATE OF NEW YORK, *City and County of New York, ss:*

Thomas B. Atkins, being duly sworn, says, that he is the secretary of the said the Maritime Canal Company, of Nicaragua; that he has read the foregoing annual report and knows the contents thereof, and that the same is in all respects correct and true.

THOS. B. ATKINS.

Sworn to before me this 4th day of December, 1893.

V. BIGELOW,
Notary Public, New York County.

[SEAL.]

STATE OF NEW YORK, *City and County of New York, ss:*

On the 4th day of December, in the year 1893, before me personally came Thomas B. Atkins, known to me to be the secretary of the Maritime Canal Company, of Nicaragua, and with whom I am personally acquainted, who, being by me duly sworn, did depose and say, that he resided in Roselle, N. J.; that he was the secretary of the Maritime Canal Company, of Nicaragua; that he knew the corporate seal of said company; that the seal affixed to the foregoing report was such corporate seal; that it was so affixed by the order of the board of directors of said company, and that he signed his name thereto by the like order as secretary of the said company.

And the said Thomas B. Atkins further said that he was acquainted with Hiram Hitchcock and knew him to be the president of said company; that the signature of the said Hiram Hitchcock subscribed to the said instrument was in the genuine handwriting of the said Hiram Hitchcock and was thereto subscribed by the like order of the said board of directors and in the presence of him, the said Thomas B. Atkins.

In witness whereof I have hereunto set my hand and official seal this 4th day of December, A. D. 1893.

[SEAL.]

V. BIGELOW,
Notary Public, New York County.

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